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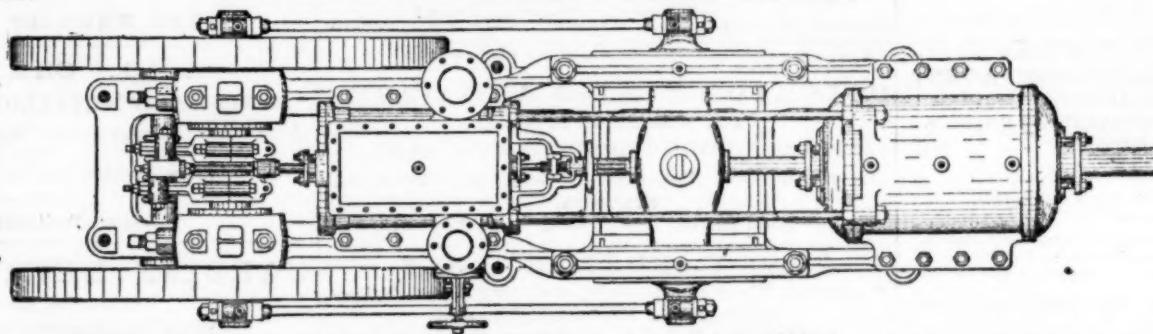
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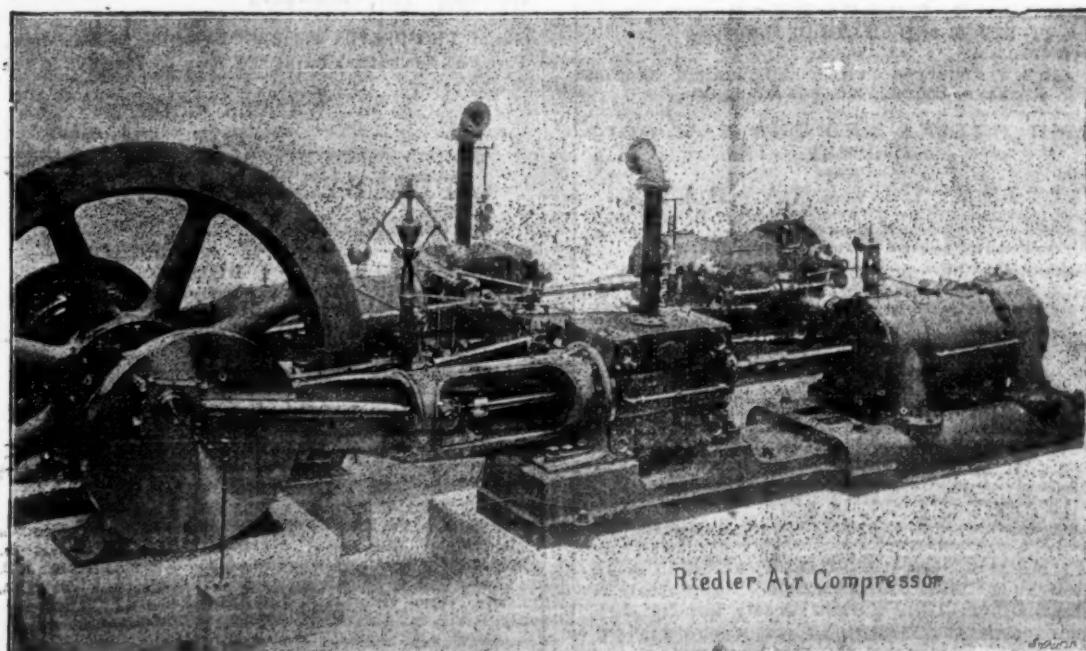
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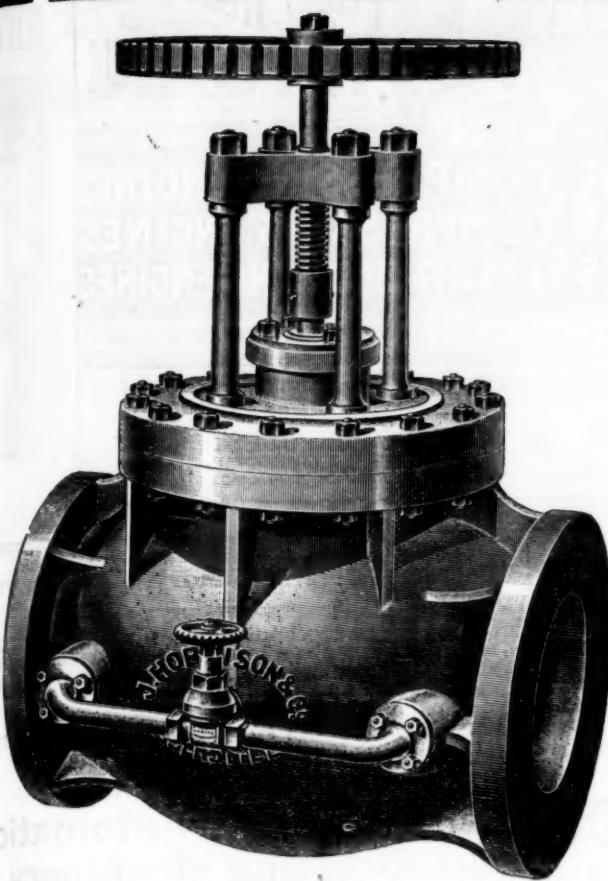


FIG. 119.

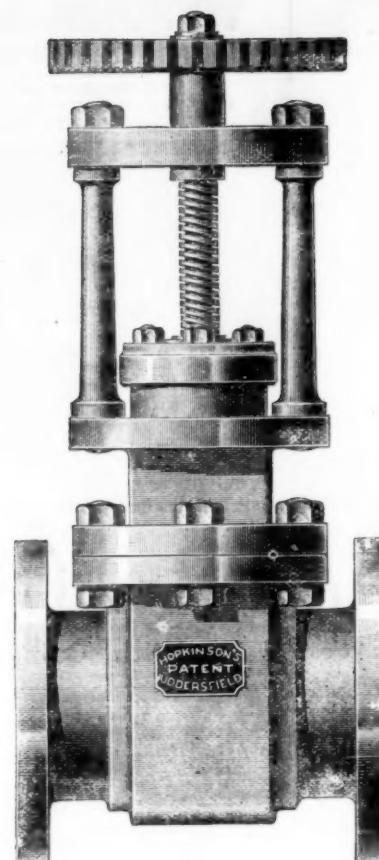


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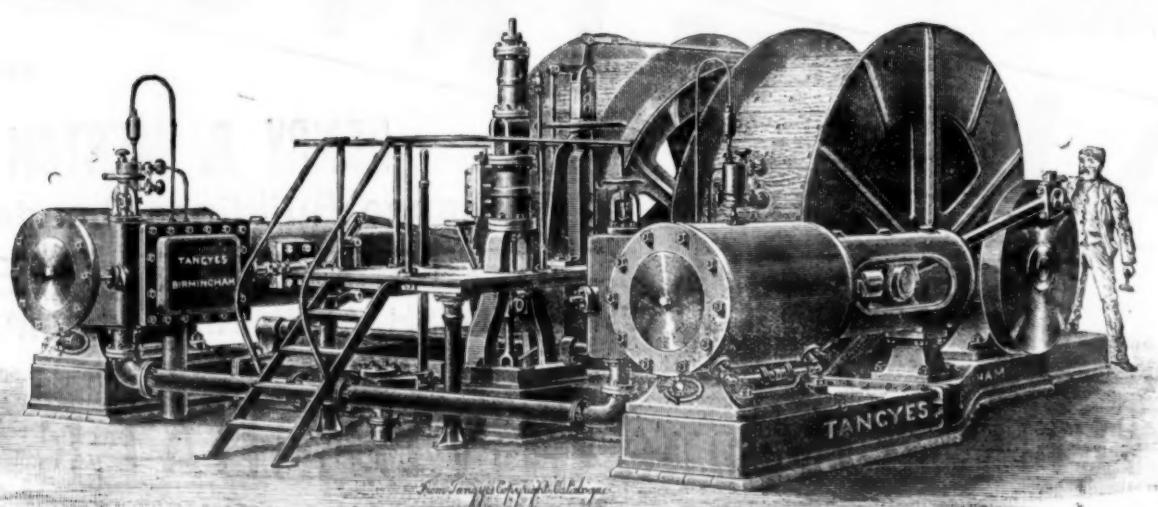
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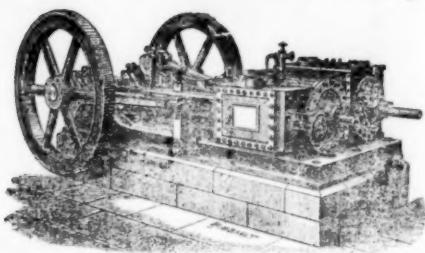
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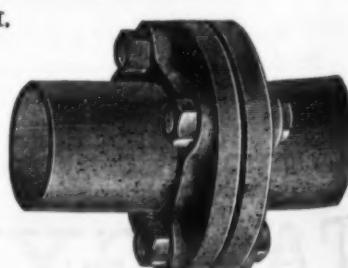
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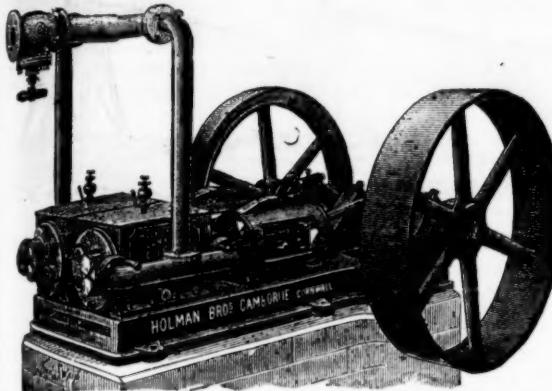
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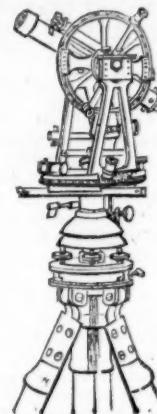
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At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until hoisting to the Shaft brought down from surface.

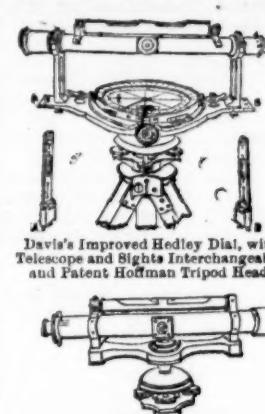
Estimates for **ROCK BORING PLANT** and **GENERAL MINING MACHINERY**
on Application.

London Offices: 7 and 9, LEADENHALL BUILDINGS, E.C.

JOHN DAVIS AND SON,
ALL SAINTS WORKS, DERBY;
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Transit Theodolite with Patent
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SECTION (B) ELECTRICAL DEPARTMENT.

Gold Medal Awarded Mining Exhibition, 1890.
A. B. C. CABLE CODE, 4TH EDITION.

AWARDS: CRYSTAL PALACE, 1890; TASMANIA, 1891; KIMBERLEY, 1892.

CONCENTRATION.

The Clarkson-Stanfield Concentrator (Limited).

In the CLARKSON-STANFIELD process of Concentrating Refractory and Complex Ores no water is required; dust is reduced to a minimum; the loss of Mineral through water-borne Slimes is obviated.

OUTPUT $\frac{1}{2}$ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.
CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS

6, COLONIAL AVENUE, MINORIES, LONDON, E.

The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

—The owners of the Carndochan Mine, near Bala, North Wales, will, by arrangement, show their CLARKSON-STANFIELD plant working on a Refractory Low Grade Gold Ore.

NEW PATENTS.

LIST OF APPLICATIONS for New Patents relating to Mining, Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 27, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

- 1291 George Henry Richmond, 5, Derby Street, Moss Side, Manchester.—Improvements in anti-priming pipes for steam rollers, also applicable to separating water from steam in steam pipes generally.—September 30.
- 1292 Antonio Montupet, 15, Southampton Buildings, Chancery Lane, London.—An improved multi-tubular steam boiler.—September 30.
- 1293 Henry Stuart, James Stuart, and William Stuart, 56, Low Street, Keighley.—Improvements in miners' and like safety lamps.—October 1.
- 1294 Henry Harris Lake, 47, Southampton Buildings, Chancery Lane, London.—Improvements in and relating to steam engines.—October 1.
- 1295 Nicholas Tverskoy, 24, Southampton Buildings, Chancery Lane, London.—Compound steam boiler.—October 1.
- 1296 Henry Harrington Leigh, 22, Southampton Buildings, Chancery Lane, London.—Improvements in rotary steam engines.—October 1.
- 1297 Jean Emile Amen, 65, Chancery Lane, London.—Improvements in electric locomotives.—October 1.
- 1298 William Dighton, 13, Hyde Terrace, Leeds.—Improvements in steam generators.—October 2.
- 1299 John Lindley and Alfred Eli Lindley, 55, Market Street, Manchester.—New or improved apparatus for preventing over-winding in mines or collieries.—October 2.
- 1300 William Smith, 3, Laurence Pountney Hill, London.—Improvements in ore crushing machinery.—October 3.
- 1301 Frederick Savage and Charles Gray Hix, 47, Lincoln's Inn Fields, London.—Improvements in traction or like locomotives.—October 3.
- 1302 John Elliot Bell, 40, Chancery Lane, London.—Improvements in railway spikes.—October 3.
- 1303 George Frederick Priestley and Walter Scott-Bancroft, Hope Street Mill, Halifax.—Improvements in steam generators and in furnaces connected therewith.—October 4.
- 1304 Henry Wilcke, 15, Water Street, Liverpool.—Improvements in or connected with steam generators.—October 5.
- 1305 Thomas Sudron, 9, Old Bank Chambers, Leeds.—Improvements in vertical boilers.—October 5.
- 1306 Heinrich Freise, 45, Southampton Buildings, Chancery Lane, London.—Improvements in igniting devices for miners' and other lamps.—October 5.

SPECIFICATIONS PUBLISHED.

- 1300, Trivick and others, furnaces, 1894; 17754, Dow, steam engines, &c., November, 1894; 17771, Felton, generating steam, 1894; 17771a, Felton, generating steam, &c., 1894; 19271, Booth, steam engines, 1894; 21321, Eastwood, steam, &c., engines, 1894; 23-86, Nobes and others, clearing railway, &c., rails, 1895; 1188, Wiggs, mining machines, 1895; 15281, Johnston, steam boilers, 1895.

The above specifications published may be had of Messrs. Rayner and Co., 37, Chancery Lane, London, at 10d. each, including postage.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:

East Hauraki Gold Mines (Limited).—Registered October 3 by Graville and White, 80, Haymarket, S.W. Capital £100,000, in £1 shares.

Objects: To acquire the gold mining claim No. 17, now known as the West Toketae Licensed Holding, in the Hauraki Gold Fields, New Zealand, but intended to be called the East Hauraki Gold Mines, with a view to the above to adopt and carry into effect an agreement between the New Securities Corporation (Limited) of the one part, and this company of the other part, to develop and turn to account the same, and to carry on the business of a mining and smelting company in all its branches.

Matabele Gold Properties (Limited).—Registered October 3 by Ingle, Holmes and Sons, 20, Threadneedle Street, E.C. Capital £20,000, in £1 shares.

Objects: To adopt and carry into effect an agreement between the West Rand Exploration Company (Limited) of the one part, and this company of the other part; to acquire any freehold or leasehold farms, mines, water and other rights, grants, leases, claims, concessions, mineral properties, &c., in Africa or elsewhere; to develop and turn to account the same, and to carry on the business of a mining, milling, and smelting company in all its branches.

Monsion (Lady Shenton No. 1) Gold Mining Company (Limited).—Registered October 3 by Burn and Berridge, 11, Old Broad Street, E.C. Capital £100,000, in £1 shares.

Objects: To adopt and carry into effect a remortgage bearing date October 1, 1895, and made between G. H. Hargraves of the one part and T. H. Everett, on behalf of this company, of the other part.

To acquire any gold mines, water and other rights, grants, leases, claims, concessions, options, metalliferous land, &c., in West Australia or elsewhere. To develop and turn to account the same, and to carry on the business of a mining and smelting company in all its branches.

Columbia (Charters Towers) Gold Mine (Limited).—Registered October 3 by Ransden and Co., 150, Leadenhall Street, E.C. Capital £50,000, in £1 shares.

Objects: To acquire, develop, and turn to account gold mining leases on the Charters Towers gold fields, Queensland, Australia, and to carry on the business of a mining, milling, smelting, and metallurgical company in all or any of its branches.

Cooper's Australasian Exploring Company (Limited).—Registered October 3 by Ingle, Holmes, and Sons, 20, Threadneedle Street, E.C. Capital £500,000 in 500,000 shares of £1 each.

Objects: To adopt and carry into effect an agreement between J. J. Cooper and R. Woodhouse of the one part, and this company of the other part, to acquire any freehold or leasehold farms, mines, water and other rights, concessions, grants, leases, claims, mineral properties, &c., to develop and turn to account the same, and to carry on the business of a mining and smelting company in all or any of its branches.

Rhodesian Mineral Properties (Limited).—Registered October 3 by Burn and Berridge, 11, Old Broad Street, E.C. Capital £233,000, in £1 shares.

Objects: To adopt and carry into effect an agreement made October 2 between the African Venture Syndicate (Limited) of the one part, and G. Thompson, on behalf of this company, of the other part, for the acquisition of certain property, particulars of which are set forth in the above-mentioned agreement, and to develop, work, and generally turn to account the said properties, in such manner as the company shall deem expedient.

Sulphide Ore Company (Limited).—Registered October 7 by King's Norton, 20, Co., 22, Essex Street, Strand, with a capital of £110,000, in £1 shares.

Objects: To acquire an invention for the treatment of sulphide of iron, and other complex ores, and all or any of the patent rights, &c., in relation thereto. To develop and turn to account the same, and, with a view to the above objects, to enter into an agreement dated May 1 with the Smelters' Syndicate (Limited). Also to carry on the business of smelters, dealers, and refiners, and as dealers in gold, silver, lead, zinc, and other minerals and precious metals, acids, chemicals, zinc white, white lead, oxide of lead, and other metallic compounds, paints, &c.

Alliance Mining Company (Limited).—Registered September 27 by E. T. Hargraves, 15, St. Thomas Street, E.C. Capital £100,000 in £1 shares (1000 deferred). To search for, prospect, examine and explore any mines and ground supposed to contain minerals or precious stones, and to carry on the business of an exploration and mining company in all its branches.

Champion Reef (Nannine W.A.) Gold Mining Company (Limited).—Registered by G. Son, W. Idon, and B. C. Clegg, 27, Caxton Lane, W.C., with a capital of £150,000 in £1 shares. Object, to adopt and carry into effect an agreement made August 30, between W. F. Milden of the one part and A. G. Wulff, on behalf of this company, of the other part; to acquire certain mining leases or claims situated at Nannine, on the Murchison Gold Field, West Australia, to develop and turn to account the same, and to carry on the business of a mining, milling, smelting, and metallurgical company in all its branches. The directors are F. W. North, J. B. Ackwood, S. H. Prill, S. H. Cox, H. McDowell, A. E. Rushall, and F. Stewart. Qualification, first director, £100; subsequent directors, £50. Remuneration, £10 each per annum—Chairman, £300—and a percentage of the profits. Registered office: 13, St. Helens-place, E.C.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

* We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.

Date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the address given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOMES CONTRACTS.

Locomotives, October 21 (London, E.C.).—For the supply and delivery of locomotives, tenders, accessories, and duplicate parts, for the Basal Light Railway Company (Limited) in accordance with the specification to be seen on and after the 3rd inst. at the company's office. Specifications will be supplied in triplicate, for which a charge of £1 is (non returnable) will be made.

Locomotives, October 21 (London, E.C.).—For the supply and delivery of locomotives, tenders, accessories, and duplicate parts, for the Basal Light Railway Company (Limited), in accordance with the specification to be seen on and after the 3rd inst. at the company's office. Specifications will be supplied in triplicate, for which a charge of £1 is (non returnable) will be made. Tenders must be sent in duplicate to Mr. W. A. Browne, secretary, 30, Winchester House, London, E.C., in sealed envelopes, marked "Tenders for Locomotives," by 21st inst.

Standpipes, October 21 (Birmingham).—For the supply of from 200 to 500 standpipes, fitted with a foot, to attach to the fire hydrants in the streets, and with two bib taps, for the Water Committee. Forms of specification, giving particular and conditions of contract, may be obtained, and a pattern given, on application at the offices. Tenders must be made out on the forms provided, and must reach Mr. E. Antony Lee, secretary, 44, Broad Street, Birmingham.

Iron Shedding, October 23 (Antwerp).—For clearing the Quai de la Bourse, and the Quai de l'Ancre, and the erection of metal shedding, &c. Estimate, 238,000 francs. Security, 20,000 francs. Particulars, &c., at the Hotel de Ville, Antwerp.

Wagons, October 23 (London, E.C.).—For the supply and delivery of 100 ballast wagons for the Southern Panjab Railway Company (Limited). In accordance with specification to be obtained at the company's office. A charge of £1 is, which will not be returned, will be made for each specification. Tenders in sealed envelopes, marked "Tender for Ballast Wagons," must reach Mr. Urban Broughton, secretary, 73, Cornhill, E.C., before noon on 28th inst. The drawings can be seen at the office of the consulting engineer, Mr. Horatio Bell, Victoria Mansions, 23, Victoria Street, Westminster.

Coal, November 1 (Barefield, Middlesex).—For the supply of about 130 tons of good household coal, delivered in quantities of 4 cwt., and upwards to poor families in the parish, as may be directed. Must be all delivered between November 14 and December 14. Sealed tenders to be sent to Mr. C. J. Pilkings, clerk to the Parish Council, by November 1.

"HE OUGHT TO BE PROSECUTED!"—The indignant words fall from the lips of a young girl who stood helplessly watching a drunken oafman brutally hitting his horse. It is, indeed, appalling to think how much cruelty goes unredressed in this world. Why are there so many weakly children in all the towns? The explanation is simple. The blame lies with the thoughtlessness and selfishness of parents. While men and women neglect their health they cannot expect to have strong and robust children. Fathers and mothers, be warned in time. Clear your systems of billiousness, indigestion, nervousness, and the like; restore your vigour and your strength by taking Holloway's Pills, the best and safest of family medicines.

MECHANICAL ENGINEERING: MACHINERY, MINING and RAILWAY PLANT, &c.

Illustrated Descriptions of New and Standard Mechanical Appliances, Accessories and Processes, adapted to Mining, Metallurgical, Railway, Engineering and other Industrial Purposes.

TEMPERLEY'S PATENT TRANSPORTER.

THE special feature of this invention is a pulley-carriage or traveller (shown in Figs. 1 and 2), which works on an elevator track, usually the bottom flange of a steel joist. It is provided with a simple automatic device by which the traveller is arrested and held stationary, whilst a load is being lifted or lowered, and which sustains the load whilst the traveller is moving, all the operations being effected by means of one working rope.

Although transporters have been made to travel on a wire rope, Mr. Temperley has not introduced this appliance as a substitute for wire rope traction. It is rather intended to take the place of a crane, or an ordinary traveller, and in some respects it has advantages over both these forms of conveyance; the chief of these being greatly increased speed in handling, and a facility for delivering the material transported at different points.

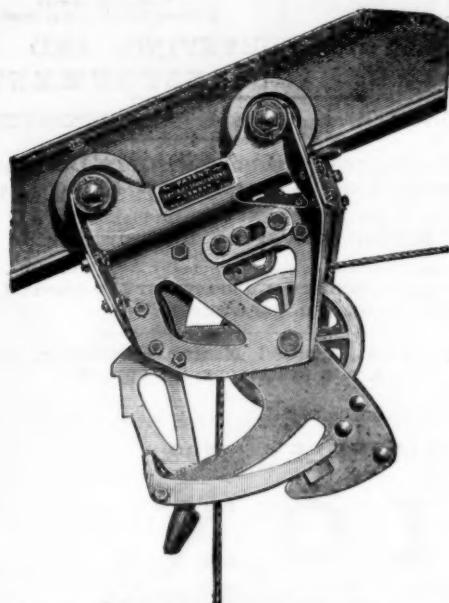


FIG. 1.—TEMPERLEY'S PATENT TRANSPORTER.
AUTOMATIC TRAVELLER.

As transporters are used afloat and ashore, in and out of doors for the same or for varied work, there are necessarily differences in the length of the beam and the method of supporting it, &c. As a rule, the beam is from 30 to 60 feet long; but in an apparatus put up last year, at Messrs. Nelson Brothers' cold storage warehouse under Cannon-street station, it is 75 feet long, being intended to lift carcasses from two tiers of lighters, and bring them about 40 feet within the building. When transporters are used to convey goods into a warehouse, the part which projects beyond the doorway is usually hinged, so that it may be lifted out of the way when not in use.

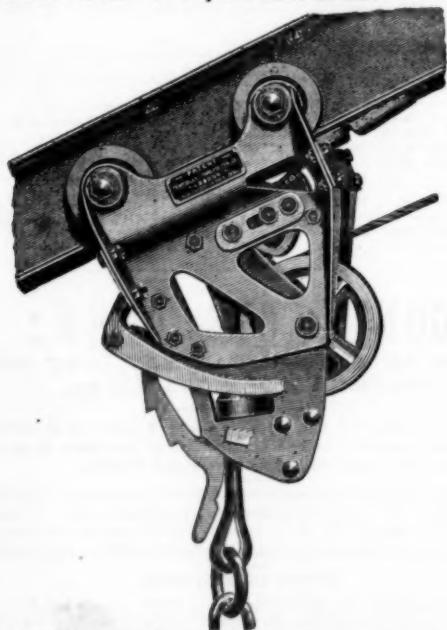


FIG. 2.—TEMPERLEY'S PATENT TRANSPORTER.
AUTOMATIC TRAVELLER.

Another arrangement of beam is that shown in Fig. 3. In this it will be observed that it is trussed, and that its ends are supported on two travelling cranes or goliaths. By this means, the ore or other material which is being unloaded from a ship or from railway trucks, can be dumped where required in the intervening space. The most usual arrangement of Transporter intended for use on board ship consists of a beam slung from a derrick pole, so that it may be slewed round in any direction, and may be worked at a varying angle. They have been found very serviceable for coaling vessels, and as a substitute for cranes in all ordinary operations of loading or unloading cargo.

The beam is fitted with a pulley at one end, and a fixed stop to prevent the traveller from falling off at the other, and when in use it is suspended from a derrick or mast, and held in place by guys in such a manner that it cannot swing, and that the pulley end of the beam, whether it is hung over-side or inboard, is always higher than the stop end; as the movement of the traveller in one direction is effected by gravity. The inclination may vary from 12° to 30°, but of course it is not advisable to let it be at a steeper angle than the work requires. The loads may either be hauled up, or allowed to run down the beam. A steel wire rope passes over the sheave of the traveller

thence over the pulley at the end of the beam, and over two leading blocks, the one at the top and the other at the heel of the derrick, from which it goes to the barrel of an ordinary steam winch. Stops are placed at fixed points on the underside of the beam, and at any of these points or stops, which are usually about five feet apart, the load may be raised or lowered by the man who is working the winch.

The most important part of the apparatus is the traveller. This consists of two side frames bolted together, with four wheels for travelling along the beam, a suspender with a paul, a double cam for locking the traveller to the beam when the load is being lifted or lowered, a single cam (interlocking with double

carried by a slide on which the motor is fixed, and the whole moves on a base, which is fixed in front of the coal face, and is shifted laterally as soon as a cut has been made. When the machine has to be shifted to another stall, it is dragged on to a small trolley, which has a winch at one end for that purpose. The cut made is 6 feet in depth by 3 feet in width, and is 4½ inches high. This can be made in 3½ minutes in ordinary coal, and a further half minute is required to withdraw the slide.

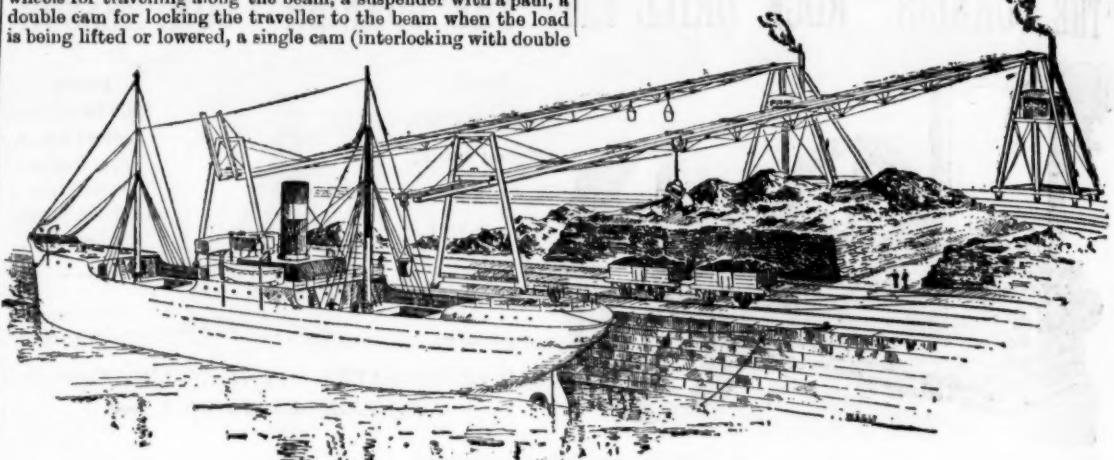


FIG. 3.

cam) for securing suspender when carrying a load, a sliding bolt passing through slots in the cams and frames for alternately locking the cams, and a toggle to cant the tooth of double cam into stops on the beam. In Fig. 1 the traveller is shown locked to the beam by the double cam, which is in gear with a stop. The double cam is prevented from moving by the sliding bolt, which is hard over to the left, and within the straight part of the slot in this cam, in which position it is locked by the single cam, which in its turn is locked by the suspender, which again is locked by the paul. The suspender is hanging down, and the rope free for lifting or lowering. In Fig. 2 the traveller is moving down the beam, just past one of the intermediate stops, with the load carried by the suspender. The suspender is held up by its bolt being in gear with the gap in the single cam. This is prevented from moving by the sliding bolt, which is hard over to the right, and within the straight part of the slot in this cam, which is locked by the double cam, which cannot unlock except into a stop. The double cam is actuated by contact with the stops on the beam, and the single cam by the movement of the suspender. The slots in the cams are so designed that the movement of one cam causes the release of the other cam, and the release of one effects the locking of the other; thus the reciprocal action of the cams automatically and simultaneously arrests the traveller and releases the load, or releases the traveller and secures the load.

When the traveller is locked to the beam (as shown in Fig. 1) lifting or lowering is accomplished by hauling-in or paying-out the rope in the ordinary way. To release the traveller, the rope is hauled-in until the ball lifts the paul-lever and enters the hook of the suspender. This causes the cams to revolve, and brings the traveller into the position shown in Fig. 2. If it is then required to move up the beam the hauling-in of the rope is continued, until the front of the traveller has just passed the stop at which it is desired to lower. The winch is then reversed; the double cam becomes engaged with the stop, and the load will be lowered. If the traveller is to descend the beam, as soon as it has been released from the stop, the winch is reversed, and the rope paid-out. Then as the toggle has not been cocked, the traveller will pass over all intermediate stops. If it is desired to arrest the traveller at one of these intermediate stops, when moving down the beam, it is first allowed to pass the stop, and then drawn back in an upward direction, in order that the toggle may become cocked; after which, on again paying-out the rope, the carriage will engage with the stop, and the load will be lowered at that stop. When the traveller reaches the bottom stop, which is deeper than the intermediate ones, it will (without the toggle being cocked) immediately and automatically engage with it, and, as the rope continues to be paid-out, the load will be lowered. Any of the intermediate stops can be made to act in the same way as the bottom stop when desired.

Readers of *The Mining Journal* will see that there are many metallurgical operations, such as the even distribution of ore over a large surface, which would be greatly facilitated by a Temperley's Transporter.

A PECULIAR COAL-CUTTING PLANT.

A VERY novel departure from the beaten track in advertising mining machinery has been made by our American cousins. This is no less than a complete coal-cutting plant, including the driving power, fitted up to travel about the country, and it may be fairly said to satisfy a long-felt want, for not only is it a magnificent advertisement, but it affords a ready means of practically testing the advisability of laying-down machinery in a colliery. At the present time, however much a mineowner may desire to test coal-cutting machinery, great difficulties present themselves from the very beginning. A machine may, indeed, be ordered on trial from one of the manufacturers, and skilled men to work it can also be obtained, but the driving power is not readily procured, even if any is available. In this country, a very large number of mines could supply power for the purpose of a trial when they have air-compressors or dynamos, but even then pipes or wires have to be specially laid. This, of course, is a comparatively simple matter when the power is to hand, but there are many mines where it would be found to be quite impossible to provide the power.

The plant in question is carried in a kind of travelling van about 40 feet long, 9 feet high and 8 feet wide. This contains a boiler, steam engine, dynamo, and the necessary fittings, and it also carries the coal-cutting machine, and 9000 feet of conductors and insulators. The boiler is of the water-tube type, specially designed to work up to 100 lbs. pressure. It is only 50 inches in diameter, and will supply 40 horse-power. The draught is increased by the exhaust from the engine. The cylinders of the engine are 8½ inches by 9 inches, and the speed can be run up to 300 revolutions per minute. The dynamo is a triple-phase generator of 75 kilowatts or 100 horse-power capacity, and for some reason has been made quite out of proportion to the rest of the plant, as by itself it could supply power to five machines. It gives 550 volts when run at 900 revolutions, but naturally it is never driven up to its full power. A separate exciter driven from the engine is used.

The coal-cutting machine is one of the chain-cutter type, in which the chain runs in a triangular path with the driving at the apex, and the effective cutting-path at the base. The chain is

In a shift of 10 hours, 200 feet of face were undercut with this machine.

The motor, like the dynamo, is of the three-phase type. It is rated at 20 horse-power, but in ordinary work only consumes six to seven horse-power. The great advantage of this type of motor is that it will stop if the work becomes excessive, without burning out the armature.

A SERIOUS CHARGE AGAINST CAPTAIN BEGELHOLE.

THE Fremantle (W.A.) *Messenger*, August 30, says:—"It will be a most unfortunate thing for the mining industry of this colony if the Coolgardie mining scandal is permitted to rest at the stage it has reached. The evidence throughout the alleged conspiracy, in which two men named Pettigrew and Urquhart were charged with conspiring to defraud Captain Begelhole of £2000, has been of a most extraordinary character. The charge against the defendants, so far as one can judge from the meagre particulars to hand, was that they put the Brown Hill Consols property under offer to him, and obtained a deposit of £2000. It is alleged they wrongfully sold the mine to another speculator, after forfeiting Captain Begelhole's deposit, the complainant admitting that he was thus prevented from making several thousands out of the resale of the property." When it is a case of simply "diamond cut diamond," the public have very little interest, and the dispute can be fought out by the parties most concerned, but a graver aspect has been lent to the case by the last day's proceedings. We clip from the *West Australian* the following choice bit of evidence:—

"For the defence, Harry Philit Wilson, accountant, of Adelaide, said he was sent to Kalgoorlie to make an examination of the books of the Leviathan Battery Company. In the course of his investigation he found that 46 tons of ore had been treated at the battery from the Brown Hill Consols. He received information that the amount treated was 56 tons, and in the presence of Mr. James Brookman, the manager of the battery, he asked Captain Begelhole for a cheque for the balance. Captain Begelhole said he was not aware what quantity had been treated, whereupon Mr. Brookman remarked, 'You may as well pay Mr. Wilson what he asks. You remember the arrangement between us was to show a larger yield from a smaller quantity of stuff.' Captain Begelhole admitted that 56 tons had been crushed, and gave witness a cheque for the balance. Witness's examination of the books showed that several other transactions of a similar nature had taken place."

"At this stage of the case Warden Finnerty said he did not desire to hear further evidence, and the defendants were discharged. We do not propose to say that Mr. Finnerty was wrong in dismissing the information, but what we do say most emphatically is that the evidence was proceeding in the direction of exposing systematic swindling of the public, and the duty of the Warden was to have extracted every possible shred of evidence that would have any bearing on the sensational declaration of Mr. Wilson. As it is, there is an appearance of the enquiry being closed and squelched just when developments were to occur, and developments of a character most prejudicial to some of the parties interested in this somewhat unsavoury case. If Mr. Wilson's evidence is true, and it does not appear as if there was any attempt to contradict it, then not only Captain Begelhole, but the management of the Leviathan battery mentioned by Mr. Wilson should be immediately indicted by the Crown for conspiring to defraud the people to whom Captain Begelhole was anxious to sell the mine. The only inference to be drawn from the evidence is that there was a vile conspiracy to 'salt' this mine, and that this sort of thing had been systematic at this particular battery. It was grossly improper for the case to have been closed at the stage it was. On the one hand, important evidence for the defence, necessary for the future protection of the public, may have been shut out; and, on the other, it is possible Captain Begelhole may have had a full and fair explanation to offer of the very grave accusations made against him."

"In any event, the Crown law authorities have a solemn duty cast upon them, and that is to at once carry out the investigation and rigorously prosecute whoever is in the wrong. If Mr. Wilson is in the wrong, he is guilty of wilful and corrupt perjury. If he is right, then the position of Captain Begelhole is a most unpleasant one, and the Government of the country will be guilty of nothing short of a heinous crime if they refuse to take up the clear responsibilities of their office in this matter. The matter must not stop at the unsatisfactory action of Warden Finnerty. The public interest, and the fair fame of the colony itself, demand that this matter should be probed to the bottom, and we trust we do not misjudge the Attorney-General when we express the belief that he will lose no time in setting the law in motion."

THE FUSING POINT OF ALLOYS.—A gold medal or a premium of 15 florins is being offered by the Dutch Society of Sciences, at Haarlem, for a paper on the equilibrium phenomena of one or more alloys of two or three metals, ranging from the melting point of the metal most difficult to fuse to the lowest temperature at which the alloy will continue to remain in a liquid state.

THE KOOTENAY MINES, BRITISH COLUMBIA.

A sketch of their progress and present condition, with letters from the Similkameen and Kettle river camps, from the Special Correspondent of "The Miner".

THE Kootenay country is that part of British Columbia embraced by the Rocky Mountains on the east, the valley of the Columbia river on the north and west, and the International Boundary on the south. We propose now to deal with the western half of this area.

The Size of the Country.

Taking its shape roughly as a parallelogram, it is about 160 miles long (from the Canadian Pacific Railway southward) and has a mean breadth of 60 miles. It thus embraces an extent of about 10,000 square miles.

The Formation.

The general contour of the country consists mainly of three parallel ranges, being all spurs of the Selkirk mountains, running nearly north and south, with two main water basins between them, the Kootenay lake to the east, and the Arrow lakes, which are part of the Columbia river, to the west. The geography of these two main river systems is somewhat difficult to describe without a map. They rise close together under the shadow of the Rockies, and then flow, the one to the north and the other to the south, putting many hundreds of miles between them, and finally uniting in the Kootenay country a few miles below Nelson. They both form magnificent internal waterways. The Columbia is navigable from Revelstoke on the Canadian Pacific Railway for 200 miles southward to Northport, a station on the Spokane Falls and Northern Railway, in the State of Washington. The Kootenay is navigable from Bonner's Ferry, a station on the Great Northern Railway, in the State of Idaho, northward, by lake and river, for over 100 miles and westward another 20 miles to Nelson, which is situated on that part of the river flowing out of the lake. From Nelson to its junction with the Columbia river at Robson the Kootenay is not navigable, but a railway supplies the connection.

The whole country is exceedingly mountainous, and for a great part is covered with a dense forest of coniferous trees, of which the hemlock and larch (tamarack) grow to a great size. There are also the so-called cedar (*Thuja gigantea*) and the white pine and others of great economic value, but owing to the reckless waste, chiefly through the carelessness of people leaving camp fires burning, the available timber is yearly becoming more scarce. There is at present sufficient timber easily accessible for mining purposes, but it is hard to say how long a satisfactory condition of affairs will last.

The mountains are rugged and lofty, reaching an altitude of over 9000 feet. The snow line is between 6000 and 7000 feet. The Kootenay lake is 1780 feet above sea level, and the Columbia river at Robson 1375, and at the head of the Upper Arrow lake 1400. The height of the Slocan lake is given on Fletcher's map at 1750 feet, and so is that of Kootenay lake, but the figures we have given are supplied us by the officers of the Provincial Survey Department. In the winter the thermometer seldom falls below zero, and the summers are temperate, the heat rarely exceeding 80° in the shade. Snow usually comes in earnest about Christmas, and covers the ground for three months. These figures relate to the valleys. On the ranges the cold is considerably more severe.

Communications.

Probably no mining field in the world started under better circumstances than Kootenay. Most of the fields in Australia were remote from settlements, the South African fields required not only a long ocean and coasting voyage, but a tedious and expensive trip for several hundred miles up country. Kootenay has three main trans-Continental lines running right into her heart, splendid internal water communications supplemented by railroad spurs, which are being energetically pushed on to reach the mines in the remote valleys, and one or two good roads. The Canadian Pacific main line passes through the northern part of the district, and a branch runs down the Columbia river from Revelstoke to within 14 miles of the head of the Arrow lakes. A branch starts eastwards from Nakusp on the upper lake, and reaches New Denver and Three Forks in the heart of the great galena country. The same great company owns also the branch that connects Nelson on the Kootenay lake with Robson on the Columbia river. The main line of the Great Northern Railway between St. Paul and Spokane comes within touch of the steamers plying on the Kootenay lake and river at Bonner's Ferry. This route, however, freezes up in winter. A direct line runs between Nelson and Spokane, connecting at the latter place with the Northern Pacific Railway and nearly all other American roads.

In addition to these lines a road is being built from Kaslo, on Kootenay lake, into the Slocan. It is to be finished by the end of October. The Canadian Pacific Railway is also proposing to extend its branch from Three Forks to the same spot, which is only about 3½ miles further on and close to many of the chief mines. Two companies have given official notice of their intention to construct tramways from the great Trail creek mining camp to the Columbia river, while the Red Mountain Railway Company has obtained a charter from the Dominion Government to construct a line from the same group of mines to a spot on the International Boundary, where it will meet a spur from the Spokane Falls and Northern Railway. Further connections of existing lines are proposed, but we do not mention them as there does not appear to be any pressing need or great likelihood of their immediate construction. A good wagon road connects Kaslo and Three Forks—a distance of 28 miles. On the lakes and rivers there is an excellent service of steamers, most of them the property of the Columbia and Kootenay Navigation Company. Their boats, however, are not quite able to meet the requirements of the traffic, and two new boats are now under construction, one on the Columbia and one on the Kootenay lake. The Nakusp, on the Columbia, which was launched in July is the finest boat on the inland waters of British Columbia, and visitors to this new rough and wild country will be somewhat astonished at the luxury of board and lodging supplied by the steamers.

History.

As long ago as the beginning of this century the Indians used to melt down the rock of what is now the Blue Bell Mine to make their bullets. They communicated their knowledge to the trappers and hunters of the Hudson's Bay Company. About the middle of the century, too, the wandering placer miners washed the rich gravels of many of our streams. Forty-nine creek bears its name the date of its discovery. But the early miners were only able with their simple appliances to superficially work the rich beds which are now yielding up their treasures to the great monitors of modern hydraulic companies.

The discovery of the Silver King Mine on Toad Mountain, just above Nelson, in the latter eighties, commences the modern era of the development of the Kootenay. Following quickly on this

came a rush of prospectors, whose picks disclosed the secrets of the Slocan, the treasures of Trail. But it was not until the last months that the latter attracted any notice at all.

It is one of Kootenay's advantages that she has a nation of born prospectors close handy just across the border, but, at the same time, it is galling to a Britisher to see all the prizes of his country falling one by one into alien pockets, which is happening every day.

For the last five years the history of the country has been the usual story of many prospects being found, a lesser number developed, and of a very few becoming actual mines. There has been the usual difficulty of attracting outside help in the way of capital, and most of the work that has been done is the result of the efforts of the original owners, or their immediate successors. Now, however, a new era seems to have commenced. Sufficient work has been done to demonstrate the fact that the country contains very rich mineral deposits. Many thousand tons of ore have been sent out to the smelters of the United States, a smelter of the most approved modern pattern has been built and at work for the last six months, and the attention of mining men, almost exclusively Americans, has been attracted to this small spot of British territory. The result is that no mining journal in the States is complete to-day without some reference to one or other of the Kootenay camps, and many and strange are the garbled reports that appear therein.

Before beginning to describe the various localities, it may be necessary to state, for the information of our readers in other countries, that the word "camp" is the American synonym for "field." Thus the Coolgardie gold field would be called a camp in American parlance. It seems a better word, too.

Nelson.

The capital of the Kootenay, doubtless, owes its origin to the discovery of the Silver King and Kootenay Bonanza on Toad Mountain in 1886. The town was laid out, and the first sale of lots took place in 1888. It is pleasantly situated where the valley of Cottonwood Smith Creek broadens out and joins the Kootenay river. This latter is navigable for 20 miles up the lake, which is over 70 miles long, and from thence again up the river to Bonner's Ferry in Idaho. Below Nelson the Kootenay Rapids commence. A railway runs direct between Nelson and Spokane, and another, a branch of the Canadian Pacific Railway, connects it with the navigable waters on the Columbia river at Robson. Steamers ply daily to Balfour, Pilot Bay, Kaslo, and other points on the lake. At Nelson the Government Agent and Gold Commissioner resides and has his office. The Assizes are also held here, and there are two banks, branches of the Bank of British Columbia and of the Bank of Montreal. The town is well built, clean and tidy, and has many comfortable and picturesque residences.

Nelson has many natural advantages as a mining centre. Not only, as will be seen, has it mineral in great abundance and of various kinds in its neighbourhood, but it is easily accessible from all other parts of the Kootenay country. The nature of the ground is admirably suited for the building of smelters; there is ample water in the Cottonwood and Grohman creeks for all purposes. Both these creeks have also falls of from 60 to 100 feet in narrow canyons, and the falls of the Kootenay river itself would give power enough to drive all the machinery in the country.

The Hall Mines

Were discovered in 1886 by a prospecting party from Colville, composed chiefly of members of the Hall and Oakes families. The property, which consists of four claims, the Silver King, the Kootenay Bonanza, the American Flag, and the Koohinor, and covers about 56 acres, was sold in 1893 to the Hall Mines Company of London, England, for something over \$1,000,000. The works consist chiefly of a tunnel 920 feet long, running south 65° east, connected by winzes and inclines with two upper tunnels, and with an upper drift about 200 feet long. There are numerous crosscuts, and also a lower drift approached by a winze from the main tunnel. The ore is not in the form of a fissure vein, but lies chiefly in two large bodies, which have now been very extensively proved by the workings. In the drift cut above the main tunnel the same orebodies were struck, but were found to be not so rich as in the original workings. A winze was accordingly sunk, and a drift excavated at a lower level. Here, again, the ore was struck, but this time it was richer instead of poorer.

The ore varies very much in quality. Assays of specimens

have run the ounces into four figures. The rock in the lower

tunnel will average from 30 to 40 per cent. of shipping ore going

130 to 150 ounces of silver, 12 to 15 per cent. of copper and a few dollars in gold to the ton.

The minerals found in the mine are bornite or peacock

copper ore, tetrahedrite or grey copper ore and chalcopyrite

or yellow copper ore, with occasional iron pyrites and traces of

gallena.

Up to the present time it has been the policy of the company

rather to develop their property than to ship ore. But of late

a change has been made.

A new manager has been appointed, who in a few months has "proved" the mine further than ever it was before. The power drill has been freely used, with the result that the existence of ore at considerable depths, and of increasing richness, has been discovered. English companies move somewhat slower than similar institutions in the States, but at last the Hall Mines Company (Limited) has made a move. Their mine is situated nearly 5000 feet above Nelson, at a distance of 4½ miles in a straight line. The only means of communication until the present time having been a wagon-road, necessarily steep and circuitous and long. Recognising that large bodies of ore could not be conveniently handled in drays, a contract has been let to the California Wire Works Company of San Francisco, and a wire tramway capable of delivering 100 tons of ore a day is now in course of erection. It has to be in working order by the end of August, and from then on for three months the contractors have to deliver 100 tons a day at its lower terminus in Nelson. Here huge bins are being constructed close to the line of the Canadian Pacific Railway, and the company has ordered machinery for a 100 ton smelter from Messrs. Fraser and Chalmers, of London and Chicago. It is to be delivered by the end of the summer.

In the immediate neighbourhood of the Silver King are many other claims, some with a good deal of development work done on them. Most of them contain galena, but those which are attracting attention at present are the gold-bearing properties. Of these the Starlight and Athabasca have recently been bonded at \$30,000 and \$50,000 respectively, and genuine work is being pushed ahead on both of them. Mr. A. E. Humphreys, the representative of a Duluth syndicate, who holds many large properties in this district, has bonded the Starlight. This claim has a ledge which contains a quantity of free milling gold quartz. Its owners have done sufficient work upon it to prove the ledge for over 500 feet, and since Mr. Humphreys has taken it the further work he has done has had such good results that he is about to put in a stamp mill to treat the ore on the spot. The Princess, a claim on the wagon-road containing a copper ore with gold, has also been recently bonded to Mr. McVicar of the No. 1 mine at Ainsworth. The creeks flowing

down from the mountains are all more or less auriferous. On the north-west side a local hydraulic company has established works on Forty-Nine Creek, which are now in full swing. After the first 120 hours' work, which consisted largely of removing boulders and other deadwork, \$5000 was picked up off the bedrock in front of the sluice-boxes, and out of the first two or three boxes themselves. The company has a practically unlimited head of water at a height of 300 feet, and sluice-boxes 500 feet in length.

Close to Forty-nine creek is Eagle creek, on which is situated the Poorman, a free-milling quartz mine, which has been in operation for some time. It is privately held, and has more than repaid its owners for their outlay. They have a 10 stamp mill running, and four vanners collecting the concentrates.

Between these two creeks is situated the Royal Canadian, another claim with a ledge of free-milling quartz, which has just been sold to Californian mining men.

All this slope of the mountain is plastered with claims, on many of which good specimens are obtained. Further down the river is Rover creek on which the Whitewater claims are situated. News is just to hand that these have been advantageously sold, but the rumour requires confirmation.

On the opposite side of the hill is Hall creek, which runs into the Salmon river. It is very rich in alluvial ore, but the huge boulders render it difficult to work. There are claims on its banks with rich showings of free milling and other gold ores.

The Salmon river, which rises in the Ymir Mountains to the south of Nelson, and runs into the Pend Oreille, has long been known as a placer ground. Recently discoveries of mineral of similar character to the Trail creek ores have been made on the mountains around, particularly on a hill draining into Sheep creek, one of its tributaries. Here a number of claims have been staked on what appears to be a vein of very considerable extent. Many of the holders are men of some little means, and they intend to do sufficient development to show the real nature of their property, and not to satisfy themselves with complying only with the conditions made by the Government, which call for \$100 worth of work per annum to secure the lease.

Discoveries of low-grade free-milling ore have lately been made on almost all sides of Nelson, but as they remain at present mere prospects, we make no further mention of them.

Before leaving Nelson, though it is scarcely within the scope of this pamphlet, we may mention that on the Kootenay river below Nelson, some of the finest trout fishing in Canada is to be had. The Canadian Pacific Railway runs along the bank of the river the whole way, and for the convenience of tourists the company has erected two or three cottages in the neighbourhood of the best spots. The scenery is magnificent, as indeed it is throughout the Kootenay country.

Leaving Nelson by steamer, we proceed up the outlet or west arm of Kootenay lake, passing many claims of which the Ray of Hope, a free-milling, low-grade property, is expected to attract some little attention. After proceeding for 20 miles we reach the lake. At the point of outlet is the little town of Balfour. There is not much mining in this immediate vicinity, though there are plenty of claims laid off, but the fishing is excellent, and there is a comfortable hotel with all conveniences of boats and steam launches, erected purposely to accommodate sportsmen.

Right opposite, across the lake, about 3 miles distant, the large, red-brick buildings of the Pilot Bay smelter appear. The volumes of smoke pouring from the tall chimneys proclaim their nature. The works are the property of the Kootenay Mining and Smelting Company, of which Mr. A. B. Hendryx is the general manager and treasurer. Including the Blue Bell Mine, also the property of the company, the whole concern, first and last, has cost about £750,000.

The works consist of a 100 ton concentrator, four roasting furnaces, and a water-jacket stack of the same capacity. The buildings are designed and large enough for two other stacks. The whole is very complete and well-designed, and each department is under competent management. The smelter has turned out during the first five months of this year 700 tons of bullion. We are not prepared to give the exact value of this product, but if we say that a ton of it contains 80 ounces of silver we shall probably be not far from the mark. The ore treated comes mainly from the company's own mine, the Blue Bell—a huge deposit of low-grade galena on the shore of the lake, eight miles north of the smelter. From there over 20,000 tons have been mined and hauled to the smelter on barges since January of this year. Ore is now being received also from Ainsworth, a rich mining camp immediately opposite the Blue Bell, across the lake.

Ainsworth.

Is one of the oldest mining camps in this region. It was originally known as the Hot Springs camp from the chalybeate springs, which issue from the side of the hill in the upper part of the town, and which supplied the inhabitants with the most luxurious hot baths.

Owing to what is usually called the slump in silver, the bottom nearly fell out of Ainsworth, but four or five mines are working again now, and greater activity is looked forward to in the near future. This revival is, of course, largely the result of the establishment of the smelting works across the lake. The Ainsworth camp is fortunate in possessing not only rich galena ores, but also what are known as dry ores. These contain silver and iron, but no lead, and are especially valuable in the smelting process. The two chief mines at present working are the No. 1 and the Skyline, both producing dry ore. The latter has only recently been reopened, and has not shipped any ore in the period which the statistics at the end of this paper cover, but during the last week or so it has sent small amounts across the lake, and its owner proposes to ship about 25 tons a day of clean dry ore.

The No. 1 is under lease to a party of Nova Scotian capitalists, and forms, with the Hall Mines and the Nelson Hydraulic Mining Company, one of the only three mines in the whole district that is owned and worked by British capital. The No. 1 has not been worked to the best advantage in the past, and consequently its output at present is not great. This will probably be improved. At the No. 1 is also a 60 ton concentrator, as the mine contains, like nearly all others, a quantity of ore unfit to ship straight as it is.

The Black Diamond and Little Phil are two adjacent mines which are being worked in a small way by their owners, and produce a fairly good galena.

The Highland Mine is rapidly being developed and will shortly be among the list of shippers. There is not at present, however, any road to it, but from its elevated position a wire tram could easily be put in to reach the lake.

A trial shipment of 5 tons of ore from the King Solomon Mine realised 160 ounces in silver and 40 per cent. lead.

(To be continued.)

PROSPECTING IN SOUTH AFRICA.—A Reuter's dispatch from Cape Town, dated September 25, says:—Prospecting for minerals is as brisk as ever, and reports of rich finds have been received from Barberton, Zoutpansberg, Griqualand West, and Matabeleland. Black marble has been discovered at Oudstroom.

PARIS LETTER.

(FROM OUR SPECIAL CORRESPONDENT.)

Position of Rand mines.—Influences against speculation.—Slight improvement in gold mining scrip.—Foreign investments.

THE present position of the South African Mining Share Market might lead the casual observer to believe that the pessimistic predictions as to the ultimate fate of speculation in this class of scrip are on the point of realisation. Had speculation been allowed to take care of itself there is little doubt but that the market would continue to preserve its character of active buying and selling for a long while to come. French dealers in Rand shares know very well that the awakening of interest in auriferous mining in all the great centres of Europe constitutes a sufficient reserve of vitality to allow of shares being maintained at something like their present values, and the conviction which is gaining ground among the main body of speculators that prices are far above their normal level would only serve to bring gambling within reasonable limits instead of entirely suppressing it. The buying and selling of shares for immediate profit is inseparable from the active pursuit of mining, and should the public lose all interest in mining scrip from this point of view it is nearly certain that the industry would suffer to a more or less extent. At the same time, it is eminently desirable that speculation should not be carried to excess. If prices are inflated to a point at which a big "slump" becomes inevitable, a certain discredit will be thrown upon gold mining shares, and the investing public will be driven away from this class of security. In the case of Rand mining, perhaps, this would not be altogether a misfortune, as the auriferous properties in that favoured district are entirely controlled by great financial interests which are perfectly well able to take care of themselves, while abundant capital has already been subscribed to more than meet the needs of the development of the Transvaal mines. But in Westralia, British Columbia, and other auriferous countries, the possibilities of profitable gold mining, after being persistently ignored for some years past, are only now beginning to attract public attention, and it would be a great pity if at the moment when investors are showing readiness to put their money in these undertakings, they should be frightened away from them by a total collapse of speculation. It is for this reason that the Kaffir market should be controlled in a more intelligent manner than is now being done, or perhaps it would be better to free it from control altogether. There is no doubt that if plenty of liberty were allowed to dealers, there would be much less of the distrust that is now noticeable on the Paris Bourse. Prices might rise, as they have done, to a much higher value than is warranted by their dividend-paying value, but they would certainly come back at some time or another to a reasonable level without fear of a sudden collapse. This natural adjustment is unfortunately rendered exceedingly difficult by the political influences now at work to check the rush of French investors and speculators on gold mining shares. The new rule of the *cotilliers* to restrict the introduction of new shares, the attempts being made to pave the way for the forthcoming loans, and the disquieting rumours of the intentions of Government to adopt repressive measures to prevent the transfer of French gold to English mining companies, are all helping to cast a note of despondency upon the market. To this must be added a very strong "bearing" movement on the Bourse, which is likely to make itself felt for a long time to come. Meanwhile, it is distinctly encouraging that, in spite of these adverse influences, the Paris market has been upheld with quite unexpected firmness, and if investors had not abundant confidence in the future of gold mining, it is nearly certain that the events of the past week or two would have precipitated a collapse. As it is, there is nothing worse so far than a feeling of indecision, which has resulted in a great deal of fluctuation in prices, and, though an advance in values may be slow and difficult, there is every reason to anticipate that it will soon take place, when the Kaffir market will resume its wonted activity.

For the moment only two or three of the leading gilt-edged shares are able to show any movement, and in these a little advance is sometimes followed by a strong reaction. All other classes of mining shares are dull and inactive. This is due mainly to the manœuvres of a few "bears" who seem to have taken complete possession of the market, while the offering of a considerable quantity of scrip by the weak "bulls," who have been forced to "off-load" in consequence of the exigencies of the bankers, has also helped to depress all classes of shares. At this juncture a couple of important holders in Constantinople realised large blocks of shares in Paris. In the temporary panic which followed, many holders tried to dispose of their scrip in London, at first with only moderate success, but lately the relations between London and Paris have been growing more satisfactory. This has allowed of a few shares recovering some of the ground they have lost during the past fortnight, but prices are still much below the level then prevailing. Chartered, Gold Fields, and East Rand were bought up freely until a few days ago; but now these are participating in the general quietude. Chartered were priced on Thursday at 175 francs; Buffelsdoorns, 193 francs; Gold Fields, 475 francs; thus showing an advance on the previous day. Ferreira, 502 francs; Gedenhuis, 148 francs; Langlaagte, 165 francs; Simmer and Jack, 660 francs; Kiesfontein, 145 francs; East Rand, 242 francs; Robinsons, 268 francs; and Transvaal Consolidated, 93 francs. These prices, though lower in many cases than have been quoted for a long time past, are yet encouraging, in so far as they have resisted the many "bearing" and other influences that have been brought against them, and it is evident that the market must possess a very strong element of vitality to be able to hold up as it has done. The fact that shares are very briskly dealt in at the opening of the Bourse, when prices advance several points, and that the reaction only takes place towards the close when the "bears" have had time to depress the market, is pretty good proof that speculators have not lost confidence in the future, and that the recovery of buying on the Stock Exchange will be followed by a renewal of activity in Paris.

The fall in the prices of South African shares is not altogether displeasing to those who believe that the recent course of the market was unfavourable to a steady continuance of public interest in mining enterprise. The small speculator, whose recklessness has been a constant source of weakness to the share market, is unable to continue his operations upon the same scale as lately, and the lower rates at which shares are now quoted, have permitted of the investing public taking up this scrip. The fact that so much scrip has been bought by people who intend to hold them for the sake of the dividends is one of the chief reasons why the market has been able to withstand so many adverse influences. It is significant also that the shares outside the Kaffir Circles, being quoted at prices which represent something like their dividend-paying value, have been little affected by the "slump" in South African mines, and that, if anything, the late crisis has diverted more attention to the auriferous resources of Westralia, America, and other countries. Nearly all the Westralian companies are meeting with a good reception at the hands of Parisian investors, and very shortly the Omnid Gold Mining Association will open an agency in this city with a view of looking after French interests in Westralian enterprises. The report of Dr. Schmeisser upon the auriferous deposits of Westralia has made a great impression upon French capitalists who show a desire to participate, as far as possible, in the development of these mines. To the United States also there are openings for the employment of French capital in gold mining, and it is probable that several new American concerns will be offering shares on this market. It is stated that in Colorado a gold field, near Denver, yielded 250,000 ounces in 1894, and that this year the production is expected to be raised to 400,000 ounces. British Columbia is also considered a profitable field for the investment of French capital, and the shares of the Fraser River Company have been taken up somewhat freely.

MINING NOTES FROM JOHANNESBURG.

By H. BUSH, M.B.

Primrose.

The property consists of 97 claims, ore-bearing. The Main reef, Main reef leader, and North reefs are being worked, the latter being proved by a continuous footwall. The Main reef is the mainstay of the mine, and has increased in value with depth. The ore reserves ready for immediate stoping consist of 244,000 tons. The equipment is of the very first order. There are 180 stamps which crush monthly 25,000 tons, and 40 more stamps are to be added, when crushing will amount to 32,000 tons. It will take 15 years to exhaust this mine. Mill and cyanide give 10 dwts., and the profits per month at present are between £17,000 and £18,000. When the additional stamps are completed, the profits will reach certainly £25,000 per month, a sum sufficient to pay 14 per cent. per annum on the present value of the stock. This property, so well established and ably worked at a cost over all of 18s. per ton, is one of the cheapest investment on the Rand.

Middlevlei Estate.

The Midas formation passes through the farm and has been proved. There is a strong likelihood that the Randfontein reefs are also on the ground. The area is 946 morgen. There is another reef on the ground running south of the Midas, opened in the incline shaft; it looks like the Battery series. No work, however, is being done on the property, and the Gold Fields refuse any explanation on the subject.

Knight's Central.

This company has been floated here within the last few weeks with a nominal capital of £525,000. Of this 400,000 shares go to vendors for the 420 claims, and £200,000 cash, and 125,000 shares are held in reserve. The property, as its name indicates, is situated to the south of the central portion of Knight's. It adjoins the Simmer and Jack East, and the Knight's Deep. The vendors are the Gold Fields of South Africa, Messrs. Eckstein and Co., S. Newman and Co., Mosenthal Sons, and Mr. J. S. Curtis. The consulting engineer is Mr. T. H. Leggett. Work is to be started immediately.

Horsham Monitor.

On this property the old shaft has been unwatered, and sinking has commenced. On the recommendation of Mr. J. Hayes, a new main incline shaft has been started. Tenders for the new mill are out, consisting of 40 stamps, and it is intended that the mill house shall be capable of carrying 40 stamps more. There can be no doubt that this property is worth all careful investors' notice.

Vesta.

In previous notes I have referred to this company, and now only confirm that which I have originally stated. Two shafts have been started, and a 40 stamp mill is on order.

Orion and Minerva.

On the former a new 80 stamp mill has commenced crushing, and the Minerva 40 stamp mill has been brought up to date, and will commence work immediately. There can be little doubt that both these companies are good.

New Kleinfontein.

The east shaft is now down 5 feet below the second level. No. 2 western incline shaft is down to the second level, and sinking will proceed when a station has been cut. Assays taken in the western shaft in the drive on the Main reef come out at 1 ounce 7 dwts. 12 grains. At a second level on a reef of 3 feet assays are 19 dwts., in the eastern drive 12 dwts.

New Comet.

The main shaft is down 101 feet below the fourth level. Assays are taken weekly in the east drive over a reef of 36 inches. They amount to 4 dwts. In the western drive at the fourth level on a hanging-wall of 20 inches assays are 2 ounces 4 dwts., or averaged over the whole mine 30 dwts.

Angelo.

The south incline shaft is down 118 feet from the surface, and assays give 3 ounces 10 dwts. In the eastern drive 550 feet from the crosscut assays are 2 ounces.

Driekoppies Diamond Mining Company.

The cost per load for hauling has been reduced to 1s. There is every indication that at a depth this mine will prove a very rich one. The new manager, Mr. G. P. Tyers, is a well-known Kimberley man. The plant being of greater capacity than the present requirements of the mine, the winding and driving engines can double the work that they are doing at present.

Buxuidenville (not on London market).

On this ground, which is south of the Main reef, and near the Meyer and Charlton, a bore-hole is going down 4500 feet from the outcrop. It is expected to strike the reef at 3000 feet.

East Rand Coal and Gold Company.

A proposition several miles beyond the Cassel Colliery on the farm Fischgal. At 100 feet from the surface a seam of coal 11 feet thick has been struck. The sample that I have seen is superior to any coal yet discovered in this State.

Heidelberg.

The whole of the town lands have been pegged out for some time. Two reefs have been struck, one of which has all the characteristics of the Nigel, on the property known as the Heidelberg Gold Mining Company. There will be shortly several other flotations in this district, and with plenty of water and coal and with the railway finished, working will be done at a very low rate. Active prospecting is taking place on the farms Holgfontein, Potfontein, Boschmanskop, Hetbok, Middlebok, Geygerle, and other farms in the vicinity. All these farms lead round in a semi-circle towards Modderfontein.

Buffelskloof (Venterkroon Gold Mining Company, Vaal).

A considerable amount of development is being done on this property with satisfactory results. The reef in the tunnel at the 100 foot level is showing well, and is improving at every foot. Pannings give as high as 8 dwts. free gold, and assays up to an ounce. The reef in No. 1 winze is 9 feet wide, and shows much improvement since last manager's report. The shares at present stand at a very low figure, but will, when the winze is down 50 feet, show a considerable rise as one of the best buys in the market. I strongly advise these shares.

Venterkroon Gold Mining Company.

Labour is very scarce, but notwithstanding this drawback, considerable development has already been done. The driving is in a very favourable country, and, consequently, good progress is being made. The Red reef has now been traced for miles right along the line, and in every case the pannings show exceedingly well. In the winzes the leaders now being sunk upon are widened out, and there is every indication of there being a good sized body of ore at depth. The quality also shows improvement. The shares should eventually go to a very high figure as the mining will be done on a very cheap scale.

MEETINGS OF MINING COMPANIES.

CHAMPION REEF GOLD MINING COMPANY OF INDIA, LIMITED.

A N extraordinary general meeting of the shareholders in the Champion Reef Gold Mining Company of India (Limited) was held on Tuesday, at the Cannon-street Hotel, the chair being occupied by Sir CHARLES TENNANT.

The SECRETARY (Mr. John Garland) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—I have no doubt you have all read the circular issued with the notice which the secretary has just read. The proposal before you is to adopt a provisional agreement which this board has entered into with the Gold Fields of Mysore (Limited) for the purchase from them of a portion of land, lying to the west of the company's property, and into which our lode dips. There never has been any question in our minds as to the desirability of purchasing this ground. The fact that sooner or later this step would have to be taken has always been before us; the only question has been the date when the purchase should be made, and the price to be paid for the land.

Our board, after much deliberation, and in consultation with the managers, have come to the conclusion that the time has now arrived, and that immediate steps should be taken to secure this land. As to price, £45,000 in cash has to be paid for it, and we think this fair and reasonable as between the two companies. By acquiring this additional land we secure the continuity of the lode for a great depth, thus prolonging the life of the mine indefinitely should the lode continue, as we believe it will do. We are encouraged in this hope by the present appearance of the lode, for at the greatest depth we have yet attained—namely 950 feet in Garland's shaft, it is worth 3 ounces of gold to the ton.

—Increase of capital. To provide funds for the purchase of the new land and for the capital purposes of the company, it is proposed to raise £80,000, by the creation and issue of 20,000 ordinary shares of £1 each, at a premium of £3. It is proposed to call up this new capital promptly, in order that the shares may be fully paid before the declaration of the next dividend, so that all shares may then rank alike for dividend. We propose to call up £1 per share on allotment, £1 10s. per share on November 30, and £1 10s. per share on December 30. In the *pro rata* allotment proposed there will of necessity be many fractions to be dealt with. These, of course, cannot be registered, and the issue of fractions is always attended by a considerable amount of trouble and difficulty. We, therefore, propose not to issue fractions, but to give every shareholder who may be entitled to apply for a fraction of a share, value in cash for his rights in regard to it. As to the mine generally, the prospects continue highly favourable; our returns are steadily increasing, and so also are the reserves of ore in the mine. (Cheers.) As the shareholders are aware, we are increasing our milling power; a battery of 40 heads of stamps is now being constructed, and will soon be dispatched to the mine. This will give a total milling power of 140 heads of stamps. We are increasing our machinery of pans and settlers for the treatment of additional quantities of the tailings by the old process. In order to treat still further quantities, we are sending out plant capable of dealing with some 4000 tons per month by the cyanide process. We shall, therefore, largely increase our output from the tailings, of which we have so great a stock on hand, and daily increasing. £50,000 of the money it is intended to raise will be devoted to capital purposes, viz., the purchase of the new machinery, and for the sinking and equipping of a new vertical shaft, which it is proposed to sink. The dividends will, therefore, not be trenchanted upon in order to provide the necessary capital for these purposes. Gentlemen, I congratulate you upon the condition and prospects of your mine. (Applause.) The Chairman concluded by moving the following resolution:—

That this meeting hereby approves the purchase by this company from the Gold Fields of Mysore (Limited) of the exclusive mining and other rights possessed by the latter company in and over a certain block of land, comprising about 116 acres on the western boundary of this company's property, extending about 116 acres on the western boundary of this company's property, for the sum of £45,000 in cash, and that the directors be, and they are hereby authorised and empowered to carry out and complete the said purchase accordingly.

Mr. JOHN TAYLOR said: Gentlemen—I beg to second that resolution. The chief question before us to-day—the purchase of the property to the west of our mines—is one to which I have given much thought and attention. It has been suggested from time to time—for, I think, nearly two years past—that this section of land ought to be acquired by our company from the Gold Fields of Mysore, but whilst fully recognising the immense importance—the vital importance—of this ground to our company, up to the present I have brought what little influence I could bear against this matter being taken in hand, because I have looked upon the step as premature. I feel, however, that the circumstances are now such that the time has arrived when the proposed arrangement for the purchase of this property ought to be carried out. Our mine continues to open out exceedingly well—notably so, Garland's shaft. Here we have to the south of the shaft a rich pay-shoot for a distance of 450 feet, and to the north of the shaft also a rich and continuous pay-shoot for about 950 feet—a total altogether, as you will see, of a persistently wide and rich reef of 1400 feet. At Ribblesdale's and Carmichael's shafts, near the centre of the property, there are large developments of productive ground—all good stoping ground—and at Rowe's shaft, close to our northern boundary, there is, I think, some 1900 feet. Away north from Garland's shaft the reef has also been found to be as rich as in any other part of our mine. Now, Garland's shaft at the date of the last report—a report case to hand this morning, dated September 25—was 954 feet down, leaving 1311 feet more to be sunk on the course of the reef, assuming, of course, in all these calculations that it maintains its present dip, which is about 47° from the horizontal. Now, it would be quite possible to compass this distance within four years—I think I may even say within three and a half years for the present time; but you will understand that it would be neither necessary nor politic to drive the shaft down as rapidly as that, for the work could be carried out with much greater economy at a less violent rate of speed. It is, however, I think, clear, with a view to the permanency of the life of the mine, that this western ground should now be secured, and this, assuming the inclination of the reef continues the same, will give us a further distance of 2200 feet to sink upon the course of the same reef. Now, the all-important question of the price to be paid for this mine is an extremely difficult one, but I do think that the amount fixed upon—£45,000—is, under all circumstances, a fair and reasonable one. In considering this matter we must not only think of the Champion Reef, which we are working with such satisfactory results, but must remember that there are other known gold-bearing reefs lying to the west of the Champion Reef, which there is every reason to believe will pass through this western ground that we are now arranging to acquire. There is another matter of great importance which we have to tackle, described in the circular, and that is the sinking of a perpendicular shaft to intersect the reef at a point below any of our present workings. It will be evident to anyone with a knowledge of mining that for the efficient working of the mine and for the successful carrying on of our operations to a much greater depth a new shaft is absolutely necessary. The mine has opened up, as you all know, exceedingly well, and it is continuing to open up well in depth, and there can be no question, I think, as to the desirability of taking this work vigorously in hand and without delay. I trust, gentlemen, that the resolution now placed before you will be passed unanimously, and that the capital it is proposed to raise will be fully subscribed. (Applause.)

A SHAREHOLDER: Is the mine held in perpetuity?

THE CHAIRMAN: No; for the duration of the lease. There is about 16 years still to run.

A SHAREHOLDER: Can the lease be renewed when it expires?

THE CHAIRMAN: We do not doubt that it can.

A SHAREHOLDER: What is the thickness of the reef at the bottom of Garland's shaft? It seems to assay about 3 ounces to the ton?

Mr. JOHN TAYLOR: The report to hand says that the reef is 2 feet wide, and worth 3½ ounces.

The CHAIRMAN, speaking in answer to Mr. DYER, said that the method embodied in the resolutions seemed to the board the simplest and most economical way of raising the money. He was quite satisfied that it would be very unwise to delay the matter any further.

The resolution was then put, and carried with one dissentient, as was another authorising the increase of the capital to £220,000 by the creation and issue of 20,000 ordinary shares of £1 each.

THE DEVON GAWTON COMPANY, LIMITED.

An ordinary general meeting of the members of the Devon Gawton Company (Limited) was held on Wednesday, at the offices of the company, 8, Finsbury-circus, the chair being occupied by Mr. PETER WATSON, J.P., C.O., Chairman and managing director of the company.

The SECRETARY (Mr. George Hadlee) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—On behalf of myself as managing director, and also on behalf of my colleagues, I have much pleasure in meeting you here to-day at the second general meeting of shareholders, and in presenting to you the report of the directors, the statement of accounts, and the report of the local manager, Mr. Bawden. I do not think I have a very great deal to tell you beyond what has been already stated in the reports. The company was formed, as you are aware, June 1894, and we had our statutory meeting afterwards. We had intended to call you together again somewhat earlier, but unforeseen circumstances occurred in connection with the extension of the works that have been carried out during the past twelve months. We have thought it better to spend a certain amount of money at surface in bringing the works into a more workable state than could have been the case with the machinery which we acquired in taking over the property. It is cheering for me to be able to tell you that we have had a telegram to say that the new flue, which we have been so long about, has now been completed, and is ready for working. The directors thought it better to wait until they were able to announce this fact to you before calling the meeting, and I hope you will fall in with their view, seeing that the delay was entirely for your benefit, and to give you some information which might be interesting.

When the company was started we first of all called up 2s. 6d. per share on application, and 5s. on allotment. A call of another 5s. was made in November, payable in December, so that it was not until nearly the end of December that we had the bulk of our capital—that is to say, 12s. 6d. per share—intact. Before the end of December we did not have a very large portion of the money in hand, so that in that respect we have, I consider, two or three months' grace. For a moment I will now go back to the purchase of this property, the particulars of which are in the report, and, no doubt, are familiar to all of you. The lease is here before us, and here also is the assignment to the company. Now I will go on to say a few words as to the accounts, which virtually represent 15 lunar month cost-sheets. Perhaps you may not be aware that in Cornwall and Devon we have the costs made up for periods of four weeks, and this statement of accounts represents, therefore, about 15 lunar months, and I may tell you that all the items we are aware of are charged up to August 31. Now, I think there are very few mining companies who are met in the middle of October, as we are, that can say their accounts are made up to so close a date as August 31. We often see accounts that are made up only to the end of June, and the other day I saw a balance-sheet that was only made up to the end of March or April. However, we pay off our liabilities every month, and take our dividends, and so on. When we took over the property from July 1, 1894, there was a certain quantity of arsenic soot that we had to pay for, and there was also a certain quantity of mundic broken underground. The latter item is entered at £325. Well, that mundic is underground, and there is, besides, a considerable quantity on the top of it. We might have taken credit for that, but we thought it much better to deal simply with the cash account, and that is what we have done. I may tell you more about that hereafter. Then, although the machinery was very excellent, and the jiggers and the other parts of the plant in good condition, we found as we went on that it was much better to have a larger stonebreaker. Accordingly we got one of the best—perhaps the best that was ever made in the country—and this occasioned some little delay. That stonebreaker has now been erected, and is working admirably. Then we found that it was necessary to have another crusher. We purchased one, erected it, built a house to put it in, and furnished all the paraphernalia in connection with it. That is now also at work and working well. Then we found it was necessary to have a larger flue, while, if you look at the plan, you will see the old flue. What was the size of the old flue, Mr. Bawden?

Mr. BAWDEN: When originally built it was 4 feet by 6 feet. The CHAIRMAN: Then we had to excavate the solid rock all along there, and to put up 164 fathoms of masonry 6 feet high, and another wall on the side of it. The flue is, perhaps, the largest that has ever been made in this country for arsenic. All this we have had to do, and you must remember that in November and December we had floods and rain so severe that it was almost impossible to stand outside and do anything whilst they continued. Then, during January, February, and March we had the most severe snowstorms, and a frost such as we had not had before for many years. The Tamar was frozen over, and other rivers throughout the length and breadth of the land, including Father Thame. In carrying out these works, therefore, we had a great deal to contend against still, we have surmounted all these difficulties, though they have caused Mr. Bawden, Captain Rowe, and myself and colleagues considerable anxiety. As managing director, I have had a very heavy responsibility in supervising all these works. My colleagues and I have visited the mine from time to time, and have done all we possibly could to facilitate these important matters. I am happy to say that they have all been completed, and I am sure that in the future you will derive the very greatest benefit from them. Having a good property such as ours, we thought it necessary to have these works done, and if there is any item in the balance-sheet which, to my mind, is thoroughly satisfactory it is the item of £1286 12s. 10d., which we have spent for the new stone-breaker, additional crusher, engine-house, calciner, new flues, &c. We have the details of the payments made every month in that direction, vouches by the manager, and any shareholder who visits the property can see what has been done. Indeed, it was a question with us whether we should not invite the shareholders down, and hold the general meeting there instead of here, but it is now rather late in the season, and we shall hope to have that pleasure next year. Then you will be able to see the mine for yourselves. I do not think that I need say anything more than I have done as to the accounts. But for the occurrences I have mentioned, we should, as a matter of course, have had even a larger quantity of arsenic than we have had. In regard to our stock of materials and arsenic at surface, we take no credit for the production underground which is paid for in the accounts. It will come to your credit hereafter. According to our accounts, the profit we have made is very small, but I may have something more to say to you in regard to that later on. Now we come to the mines. I may tell you in a few words that you have got a very valuable undertaking. The sales of arsenic have been carried out very promptly. As you are aware, we took over one contract, and afterwards we made a second contract, when, as I anticipated and forecasted at the last meeting held twelve months ago, we got an increased price for our commodity. I don't think it is necessary for me to say anything more on that subject. Passing on to Mr. Bawden's report, I

think you will be able to read between the lines of his statement, as also between those of the directors' report. The directors were doubly cautious in all that they say to you, but we shall, perhaps, be able to say a great deal more at the next meeting. In the meantime I may say that, inasmuch as we did not have your money until December, we think it would be better to go on to the end of December, and then we shall see more how we stand, while the profit which now remains to your credit will be considerably augmented. When this happens we intend to see what we can do in the way of giving you a Christmas-box or New Year's gift. I have given you this statement of mine with a good deal of confidence in the hope that I may be able to lay before you a very much better one on the next occasion of meeting. If there are any questions to be asked I should be very glad to answer them, and Mr. Bawden is here, and will, no doubt, be very happy to tell you anything you want to know. I now beg to move the adoption of the statement of accounts, the directors' report and the manager's report also. (Applause.)

Mr. THOMAS GLEN seconded the motion.

Mr. MATTHEWS said the report presented was a very satisfactory one, but having regard to the fact that the company was a young one, he thought the directors might have been content to take somewhat less in fees; not that he grudged the board the remuneration for their services, but that the expenses of the company seemed to be rather heavy.

The CHAIRMAN, in reply, explained that the directors' fees covered a period of 15 months, and the interest held by the directors, their relatives and friends in the company, was so large a one that the transaction simply amounted to taking money out of one pocket and putting it into another. If the directors had been paid £1000 a year, they would not have been over-remunerated for the anxiety and work they had had to undertake. When the concern was floated there was no promotion-money paid. It happened, moreover, that the concern had been launched about the worst week in the past two or three years, and as a result the directors had had to take a very large interest in the concern themselves, and to get their friends to do likewise. If there were any shareholder who wished to sell his interest in the company he could very easily do so. The directors and their friends held about 75 per cent. of the shares. Considering the time and attention they had paid to the affairs of the company he did not consider that they were at all over-paid. (Hear, hear.)

A SHAREHOLDER: Under what heading do the wages appear?

The CHAIRMAN: As mine's cost.

Mr. LANE concurred in the view that directors should not be paid too heavily, but in the present instance the shareholders should not forget that, had it not been for the large interest taken up by the directors, the concern would never have been floated at all. In the first instance, moreover, it had been calculated that the shareholders would have to pay up £1 per share, and it was owing to the push and energy of the directors, and to the time and attention they had given to the company's affairs, that only 12s. 6d. had been called up, so that in that matter the shareholders had saved a good deal of money. Then the affair had been launched without any promotion expenses, and that being so, the shareholders had been saved a great deal more than they had to pay for directors' fees. No doubt the shareholders might have expected from the terms of the prospectus that the output would be larger, but they had had many difficulties to contend against, and had it not been for these there was no reason why the statements in the prospectus, which were carefully founded on a knowledge of the mine, should not have been amply fulfilled. The old machinery at the mine had not done all that was expected of it, but they had added to it by more powerful machinery, and there was every reason to hope that the statements in the prospectus would be more than fulfilled in the future. (Applause.)

Mr. COPPEN said that when the company started he was invited by Mr. Watson to join the undertaking, and desiring to ascertain for himself what it was worth, he had visited the mine. With the position of the Devon Gawton he was very favourably struck, for it was such as to enable the property to be very economically worked. There was also a great quantity of the material required for making arsenic on the spot. He saw there an immense extent of the machinery and appliances necessary for treating the ore, but it appeared that plant of a stronger and more extensive nature was required. Nevertheless, little as he knew about practical mining, he was able to form the judgment that the price they were going to pay for the mine was a very small one. He was, in fact, so favourably impressed with the whole concern that he identified himself with it, and offered to take one-tenth of the capital. This he did without any kind of remuneration, and for every share he and his friends held in the affair 12s. 6d. had been paid into the coffers of the company. (Applause.) He confidently believed that there was no gentleman connected with the mine who had personally reaped anything like benefit from it, other than being connected with it in the position of director or manager. He believed that every penny paid by shareholders in the mine had been used in an honest and straightforward manner. His confidence in the property remained so strong that he had latterly increased rather than decreased his holding, some of his shares having been purchased at a premium. In view of the difficulties they had had to contend against he thought the statement presented to the meeting a very satisfactory one. The works had been blocked up with snow, and the Tamar had overflowed the surrounding fields for months. In one case a cargo had been floated a considerable distance away from the bed of the river. In estimating the results of the account, they should remember that during six months instead of making any money they were actually losing, so that the profit shown in the accounts was made after the deficit had been cleared. He was confident that they had a good property, and he did not believe that at any future time the shareholders would think the directors were too highly paid. (Applause.)

Mr. BAWDEN explained by the aid of a plan suspended in the room the workings which have been carried out during the past year. He need hardly remark, he said, that to sink the shaft 117 fathoms deep and drive 200 fathoms, had cost a good deal of money. If he were to put the cost of doing this and providing the machinery which the company had taken over with the property at £200,000, he should be within the mark. He had always been of opinion that a big lode of arsenical mundic trended to the south of the copper lode, and a few years ago he was able to prove that beyond doubt this lode existed, and subsequently to prove the whole, a distance—200 fathoms in length. The richest part of the mine at the present time was the bottom of the 117. It was impossible for anyone to tell the reserves they had, but if they did not discover another stone of mundic they would have sufficient to keep the whole of their furnaces going for the next 21 years. Mr. Bawden concluded by speaking in the very highest terms of the future of the property.

The motion for the adoption of the report and accounts was then put, and carried unanimously.

On the motion of Mr. MATTHEWS, seconded by Mr. BATELOR, Mr. Norris was unanimously re-appointed as the company's auditor.

Mr. BLAKE moved a hearty vote of thanks to the Chairman, directors, and officers of the company for the satisfactory manner in which they had furthered the company's interest.

Mr. POUPIARD seconded the motion, which was carried unanimously.

Mr. LANE moved a vote of thanks to the local manager, agents, and the company's employees at the mine, which was seconded by Mr. RADFORD, and heartily endorsed.

A few words from the CHAIRMAN in acknowledgment of the vote of thanks given to himself and the board terminated the proceedings.

THE POSSIBILITIES OF ELECTRIC PUMPING MACHINERY.—At the Atlanta meeting of the American Waterworks Association, Mr. Charles A. Hague read a paper on this subject. His main argument was that the convenience and controllability of electrical power, together with its simplicity of application to the work of pumping, commends it very strongly for use in isolated places, such as high-service systems in public water supply, wherein a comparatively small percentage of the total water supplied by the initial plant is needed for dwellings situated upon levels too high to be accommodated by the general pressure.

THE HAMPTON GOLD HILL MINES, LIMITED.

The first ordinary general meeting of the shareholders in this company was held on Thursday, at the Cannon-street Hotel, the chair being occupied by Mr. A. W. BIGGS.

The SECRETARY (Mr. R. L. Hobbs) read the notice convening the meeting.

The CHAIRMAN said: Ladies and Gentlemen—You are doubtless aware that this is the statutory meeting of the company, and as such is purely a formal affair, though held to comply with the requirements of the Companies Act. Consequently, there is no business before us to-day. Nevertheless, I think it will probably be gratifying to you that I should tell you what has been done since we last met. You will doubtless remember that when we last met together the occasion was the confirmatory meeting of the reorganisation scheme. That reconstruction has gone through most satisfactorily, and I am glad to be able to tell you that every one of the shares has been taken up, and that it has not cost us a single penny, either in commission or underwriting. At the present time we have over £5000 in the bank, so that the fear of calls you may, for the present, entirely dispel. No doubt you will also wish to know what we have been doing with our option in West Australia. We hold an option over a block of 50 acres from the Hampton Plains Exploration Company. As I formerly told you, I am a director of that company. Under this option we have the right to prospect to our satisfaction on this block, and if we find it suitable, then we have the right to acquire the lease of it by a payment entirely in shares. By this means we shall leave our cash capital available for development work and I think you will agree with me that this is a very favourable arrangement. I mention these details again to you as I know that since we last met we have a great many new shareholders to whom they may be of interest. On this 50 acre block three reefs have been discovered—one to the westward, 3 feet wide, which has been called the Main reef, one reef to the eastward, from 1 foot to 18 inches wide, which has been called the White reef, and one between these two, known as the Blue reef. This last is not considered as good as either of the other two. With regard to the work done on the Main reef, a shaft has been sunk to a depth of 50 feet, and the reef is reported to be 3 feet or 4 feet wide, but not so rich as near the surface. From the bottom of this shaft they have driven north and south on the reef some 50 feet. On the Blue reef but little has been done so far, whilst on the White reef they have sunk a shaft some 40 feet. The reef is narrow, but reported to be fairly rich. The reports in connection with these workings, which I shall now read to you, have come in more or less together:—

"Main reef: The drive at the 50 feet level on north side of shaft has been extended 20 feet, making a total distance of drive along the reef 24 feet. The stone prospects better at face of drive than it did at bottom of shaft. The reef is solid, and the average width is 4 feet. Although it is splendid-looking stone, it does not prospect so well as it did between the surface and 20 feet deep. No work has been done on the south drive since I reported last. I have had ladders put in this shaft during the last week. One shift of men (three) has been employed on this reef during the fortnight. Blue Reef: I have had several trenches cut on this reef along the Big Blow and on the flat, but as I could not get any gold in the quartz by dollying, I considered it was not good enough to start to sink a shaft on this line of reef, unless I had instructions to do so. White reef: The shaft on this reef is now down 38 feet; the stone is of good quality, showing gold freely, but the reef does not increase in width. The quartz varies from 1 foot to 18 inches wide. One shift of men (two) has been employed in this shaft during the fortnight. Four chains, north-north-west from the above shaft I have opened out another reef, which I think will prove to be the best in the two leases. At a depth of 5 feet (present depth), the reef between the walls is over 6 feet wide, and in breaking the quartz on footwall side of reef one can see fine gold in nearly every stone. I have also dollyed stone from all parts of the reef and it prospects well. The quartz is underlaying to the west. As soon as the timber is put in and the windlass fixed, I will start the two men who are working on the 18 inch reef in this shaft, so that two shifts of men will be employed to prove this lode. General remarks. The total number of men employed on the two leases, including carpenter, carter, and self, is 10." Then on August 24 the mine manager sent the following report:—"Block 50. Main reef. The drives along this reef at the 50 feet level have been continued. The south drive is in a total distance of 20 feet, and the north drive 34 feet from bottom of shaft. The stone in the south drive is highly mineralised, but it carries very little free gold. The stone in the north drive is of a better quality. During the last week I have had two shifts of men (six) employed at this shaft. White reef: I stopped the men who were working at the first shaft that was started on this line of reef a week ago. The leader did not increase in width, and the ground was getting very hard, hence my reason for stopping this shaft. The total depth of shaft is 43 feet. The other shaft on this line of reef, that was started over a fortnight ago, is now down 14 feet. The reef, which was over 6 feet wide on the surface, only went down 7 feet, when it ran out on a soft bottom, leaving no trace of it anywhere. I have had, however, the shaft timbered up and the windlass erected. I intend to sink 20 or 25 feet from the surface, then crosscut east and west to try and strike the reef. The stone (while it lasted) from this shaft was the best that I have seen on the company's leases. One could see fine gold in nearly every stone." Then again, on September 7, the mine manager reported:—"Main reef: The drives at the 50 feet level on this reef have been continued. During the fortnight some fairly good stone was met with in the south drive. The best of the stone, however, did not extend for more than 10 feet, but the good quartz seems to be opening out in length at the bottom of the drive. The reef has varied in width from 3 to 5 feet along the length of drives. At the face of the south drive, however, the reef has pinched to about 6 inches, but no doubt it will make again as the drive is extended. The total distance of drives from bottom of shaft is—south drive, 60 feet; north drive, 34 feet. During the fortnight two shifts of men (six) have been employed on this reef. White reef. No. 2 shaft on this reef has been sunk to a depth of 25 feet. The reef, which was over 6 feet in width on surface and carrying good gold, ran out on a soft bottom at a depth of 7 feet. Since then I have continued the shaft to present depth. As the reef on surface was dipping to the west, I have started at bottom of shaft to crosscut to the west to try and pick up the reef again. During the fortnight one shift of men (two) has been employed on this reef. General remarks. During the fortnight I have had windlass made, as I put in a main reef shaft, also ladders put in right from top to bottom of shaft." I think, gentlemen, you will see from these reports that a good deal of work has been done to prospect the property, and your directors have come to the conclusion that a sufficient amount of work has been done for a competent engineer to form a reliable opinion as to the value of the property. We have, therefore, instructed Messrs. Bewick, Moreing, and Co., a firm of the well-known experts, to send one of their most experienced men to inspect and report to us, and upon the nature of his report we shall be guided as to whether to take up the lease or not. I have very little further to state to you. The old property in North Carolina has been carefully looked after. We are not spending any more money than is absolutely necessary to keep it intact. I have been only telling you the facts, so that you can form your own opinion of them.

Replying to questions, the CHAIRMAN said until the directors were convinced that the reef and everything with regard to the property was satisfactory they would not exercise the option. It was expected that they would have their engineer's report about the middle of next month. If it were not satisfactory, he thought their intimate relations with the Hampton Plains Exploration Company would enable them to lay another property before the shareholders. They had spent very little over the property now under option, and if it turned out well they would acquire it on exceedingly cheap terms, payment being by shares entirely. The property was about 35 miles from Coolgardie.

On the motion of Mr. AUSTEN, a vote of thanks was accorded the Chairman, and the proceedings terminated.

THE HYDERABAD (DECCAN) COMPANY, LIMITED.

An extraordinary general meeting of the shareholders in this company was held at Winchester House, on Tuesday last, the chair being occupied by Mr. G. H. M. BATTEY.

The SECRETARY (Mr. L. L. Hall) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—At our last general meeting on December 14, 1894, you were informed that a few days previously—namely, on November 27, the board had received a telegram that the approval of the Government of India had been accorded to the Raichore Doab gold lease, extending over an area of about 1000 square miles. I also told you that for some time preliminary negotiations had been going on for an assignment of a portion of the gold fields, held under this lease, to a company to be formed to acquire it. When the lease was executed the first question to be considered was, what should be the exact extent and position of the tract to be so assigned. The first idea of the board was, that a comparatively large area should be assigned, and might extend to an entire section of the lease—namely, 25 square miles. In order to carry out this view, two or three alternative areas were suggested by the board, and the opinion of the company's agent in India was asked as to which he thought would be the best. To determine this and the exact boundaries of the tracts, village maps had to be obtained from the Government records, which took a considerable time. Whatever the tract might be, it was necessary under the terms of the lease to obtain the sanction of the Government of His Highness the Nizam to the assignment, before it could be carried out. I will read you section 24 of the lease. It runs as follows:—"The company shall not assign, underlet, or part with the possession of the demised premises or any part thereof, without the consent in writing of the Government first had and obtained, which consent the Government hereby agrees shall not be unreasonably withheld." In order to avoid delay the board determined to get the assent of the Nizam's Government to an assignment of any tract within the lease not exceeding one section. A telegram was sent on April 2 to this effect. This elicited enquiries from the Government as to further details regarding the constitution and obligations of the proposed company. On receiving these the Government put the matter first before a committee, and subsequently before their Cabinet of Ministers. By April 19 the board learnt by cable that the assignment was consented to as proposed, but the consent was subject to the approval of the Government of India. For reasons of which the board was uninformed, the Government of India thought proper to vary the conditions proposed by the board, and to suggest others which appeared impracticable. A long correspondence by letter and cable ensued, and eventually the papers came before Her Majesty's Secretary of State, with the result that on the 26th of last month he wrote to me that he had assented to the assignment, stipulating that the working capital should not be less than £25,000. As the board had undertaken to secure a working capital of at least £50,000, no obstacle remained to carrying out their original proposal, and it is to enable them to do so that this meeting has been called. Meanwhile, Mr. Lowinsky, our agent and general manager, had returned to England on leave, and continued the discussion with the board as to the actual area to be assigned. If the original idea of assigning an area of anything approaching 25 square miles were adopted, the board was of opinion that a working capital of £150,000 might prove insufficient for the development and working of the large area assigned. In that case the new company might have to provide further capital in one of two ways—viz., either by increasing its own capital from time to time, or by assigning portions of the area to other companies. Mr. Lowinsky pointed out that there would be many advantages in restricting the tract to be assigned to an area which would be commensurate with the working capital at the command of the new company without necessarily having recourse to further capital to be raised hereafter by either of the methods above indicated. The tract ultimately decided upon is the Wondalli block of 837½ acres, comprising some of the most important lodes on which prospecting operations have been carried on. It is traversed by several auriferous veins across the tract, which is more than a mile broad. The new company will concentrate its expenditure and energies in developing this portion of the gold fields, and leave the parent company free to promote further subsidiary companies with fresh capital to take over other blocks in the neighbourhood, where prospecting operations are being carried on. The predominating object of the board has been to give the first subsidiary company a tract which will give them the best chance of success, and they believe with their present knowledge that this will be secured by assigning to it the Wondalli block. From remarks made to me lately, it seems that some of the shareholders think that the board has not given them sufficient information as to the discoveries which have been made, and the future prospects in this block. I will read what was said in our last report:—"The evidence which led to the development of the Mysore gold mines was the existence of ancient workings, at a period of which there is no history. Similar ancient workings have been found widely dispersed throughout the Raichore Doab field. The prospecting operations of the company have been carried on in some of these old workings, and have satisfactorily proved the existence of numerous gold-bearing veins of quartz. Many assays have been made of the quartz, yielding from a few dwt. to over 3 ounces of gold per ton. The lodes exposed are of various thicknesses. Trial crushings have been made with a small prospecting battery, and some of the bullion obtained has been sent to the company's offices here. The largest crushing was of 44 tons 12 cwt. of ore, which produced 45 ounces 5 dwt. of bullion, giving an average of over 1 ounce per ton, not including what remained in the tailings. The value of the bullion is estimated at about £4 per ounce, or higher than standard gold." These remarks had special reference to the Wondalli block. I may now amplify them. It must be remembered that what we have been doing is to split or drive through the workings of the ancient miners. They naturally took away everything of value that they could remove within their reach, but the exigencies of their mining operations necessitated their leaving here and there portions of the veins as pillars or arches for supporting the wall rock. Naturally, they endeavoured to leave the poorest stuff for this purpose, but what they did leave affords useful indications of the character of the vein. Unless compelled by difficulties in mining deeper, or by other circumstances, the ancient miners would have been loath to cease their operations where the lode was payable, but would have taken the opportunity of doing so if it became inferior in quantity or quality. With modern appliances, however, there is no difficulty in sinking further until the vein again improves. In the Kolar fields of Mysore sinking has been carried on already to more than 1000 feet below the ancient workings. In the south main lode of the Wondalli block three prospecting shafts have been sunk in the old workings. The westernmost shaft, called the West shaft, is about 1400 feet from the west boundary, and having been sunk to a depth of about 238 feet has not yet reached the bottom of the old workings. In this shaft quartz varying in quality from 2 dwt. to 1 ounce 5 dwt. per ton has been met with in places where portions of the vein have been left by the old miners. It is expected when the old workings are bottomed a good lode will be reached. The next shaft, called "No. 3 shaft," is about 2000 feet to the east of the west shaft. In it the old workings were bottomed at a depth of 380 feet—lower than any old workings yet found in India—and the sinking has been carried 60 feet deeper, and a drive has been put out east and west on the course of the vein. In the west drive the lead was missed, but has recently been recovered in a crosscut. In these workings ore has been met with, varying in value from 2 dwt. to 3 ounces 10 dwt. of gold to the ton. Still farther eastward, about 2500 feet from No. 3 shaft, is the Mallapur shaft, about 200 feet from the eastern boundary. This shaft has been sunk 136 feet, which is rather below the old workings as at present known. The quartz found in it varies from 1 dwt. 7 grains to 16 dwt. of gold to the ton. Except a few open-cutting, these

three shafts comprise all the work done on this lode. The width of the lode, so far as our discoveries have gone, varies from a few inches to 3 feet. It will be seen that there is a large extent of unexplored ground on the course of the vein between and beyond these shafts, which it will be the duty of the new company to open out. On another apparently parallel vein, about 50 yards to the south of the south main lode, a shaft has been sunk, known as the Well shaft, which is now about 210 feet in depth. The quartz met with in this shaft varies in quality from 2 dwt. to 4 ounces 3 dwt. of gold per ton. The deepest level driven 13 feet each way at the 237½ feet level shows the lode in the west end to average about 3 feet in width, and in the east end about 2½ feet. It was from this shaft that the crushing of 44 tons 12 cwt. produced over 1 ounce to the ton as a milling result from a prospecting battery, with merely plate amalgamation. There are several other old workings in the Wondalli block on lodes which appear to run somewhat parallel and to the north and south of the two lodes already referred to. Not much work has been done yet to clear these out. Such, gentleman, is a general rough description of the underground work done in the Wondalli block and the discoveries made. I venture to say that they show a very good prospect for the success of the new company. The Hyderabad State is a peaceful, well-governed country, with an old and established civilisation. It is traversed by railways, and possesses inexhaustible supplies of coal. Labour is cheap, and there is an abundant water supply available. I may mention that a project is under consideration for utilising the flow of the Kista river, which is only about 12 miles distant from the mines, as a means of providing cheap motive power, either by electric transmission or otherwise, for mining and milling purposes at a cheaper cost than even coal and steam power. I have now to ask you to pass the resolutions before you for the purpose of forming the subsidiary company to take over and work the Wondalli block. You will remember that at our previous meetings many shareholders expressed the hope that they would be given the chance of taking shares in the new company. This has been provided for by giving each shareholder the option of taking a *pro rata* allotment of the 100,000 shares which will be issued. The Chairman concluded by moving the adoption of the directors' report.

Mr. B. W. COLVIN seconded the resolution, which was unanimously agreed to.

The CHAIRMAN also proposed a resolution, authorising the formation of a company to be called the Wondalli (Deccan) Gold Mines (Limited), with a capital of £300,000, in 300,000 shares of £1 each, the purchase price to be paid to Hyderabad (Deccan) Company (Limited) being £150,000 fully-paid shares.

Lord LAWRENCE seconded the motion, which was agreed to *en masse*, and the proceedings terminated.

largely interested as shareholders, as all the directors are, I myself having subscribed for 5000 shares at par, and they will spare no efforts to do all they can for the company. I may also add that one of the managing directors has cabled or a diamond drill, with the idea of prospecting on the properties acquired or to be acquired, and he states that when this drill is not required for our own purposes he can hire it out there on very remunerative terms to the company. I think I have detained you quite long enough, but I should like to state broadly what the position of the company will be. When the transfer is completed, and other preliminary details are settled, we shall stand with an issued capital of about £150,000. We shall have this big block of 312 claims on the Randfontein; we shall have 1200 acres, with or without the mynpacht, on Vanderburg's portion of Middlelei; we shall have 500 claims on Farm Doornkop; in all probability on the dip of the Steyne Estates; and about £25,000 cash in hand over that amount. Over and above that the shares, as you know, stand at a small premium to-day, and we have a reserve issue of something like 150,000 shares, which we shall take the opportunity of placing at a premium whenever a suitable opportunity occurs. If any shareholder has any questions to ask, I shall be glad to answer them to the best of my ability. (Applause.)

A SHAREHOLDER asked when the company's shares would be quoted on the Stock Exchange.

The CHAIRMAN: There is no official quotation for Johannesburg properties, as a rule. There is a market for the shares on the Exchange, but we shall never get an official quotation. In fact, the number of Johannesburg companies quoted one might limit to about a dozen. They are quoted in the financial papers, and that is all the quotation you will ever get. Even the very leading companies, such as the Robinson, have no official quotation on the Stock Exchange. The secretary reminds me of one thing, and that is that a block of shares has been placed in Italy, which is a new market, and, therefore, it is a matter of interest to shareholders in Witwatersrand properties.

Mr. EYRE: Can you give us any information as to when the certificates will be ready?

The CHAIRMAN: The secretary informs me that the scrip in the ordinary course should be ready in a month's time, but we are a little late, because of the difficulty in printing bearer scrip.

On the motion of Mr. EYRE, a cordial vote of thanks was passed to the Chairman and directors.

The CHAIRMAN: We are much obliged to you for the kind way in which you have passed this vote of thanks. No effort will be spared, on the part of myself or the other directors, to make the company's affairs a complete success. (Hear, hear.)

The proceedings then terminated.

WESTERN WITWATERSRAND EXPLORATION COMPANY, LIMITED.

The first ordinary (statutory) general meeting of the Western Witwatersrand Exploration Company (Limited) was held on Thursday at the Cannon-street Hotel, Mr. W. A. WILLS (the Chairman of the company) presiding.

The SECRETARY (Mr. Lancelot C. Walton) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—This being merely the statutory meeting, formally held in accordance with the Companies Act, I do not propose to keep you here longer than is absolutely necessary, especially as we have just gone to allotment, and the company has hardly started its operations. I may, however, just briefly state that the company went to allotment on an application of over 50,000 shares out of those offered to the public. You will remember that the company was formed chiefly to acquire a block of 312 claims close to the Porges Randfontein Block, which is one of the chief Randfontein properties, and one of the best on the whole of the Witwatersrand. I may tell you that since the company was actually floated we have received weekly reports from our local managing director, Mr. J. E. H. Lomas, and he reports that he is absolutely satisfied, as far as anybody can be, that we have the Randfontein reef; and I may also say that that opinion is corroborated from various quarters. Those of you who have seen Mr. Goldman's map, which is the standard reef map of the Witwatersrand, will notice that he shows the Randfontein series traversing our properties in dotted lines; and various gentlemen I have seen from Johannesburg, who know the district, say that there can be no reasonable doubt that we have the Randfontein series and the Bothas series. I may further explain to those who are not acquainted with the district that the formation of the Rand is a proper stratified geological formation; that is to say, the reefs run more or less in parallel series. We have running east and west, south of our property, a large slate bar, and that practically involves the existence of the Randfontein series in our property. I have said that one of our managing directors at Johannesburg, Mr. Lomas, is more confident than ever on the subject, and so much so that he is daily expecting to be able to cable the discovery of the reef itself. This is hardly the time for me to go into a calculation about the value of the property, because in mining things are very uncertain, but at £1000 a claim our company would be worth £312,000, quite exclusive of any other properties we might hold. If we discover the Randfontein reef on our property each claim containing that reef would in all probability be worth something like £20,000. Of course, we cannot tell at present that we have the reef in the whole of our property, or even in one-half or a quarter of it; but if we have the Randfontein reef, and if it is as payable in our property as in the neighbouring company—Porges Randfontein block—you have an enormously valuable property, and you may fairly capitalise the claims containing the reef at something like £20,000 each. On this property alone the company has great chances, especially as it is one of the largest properties upon a gold field where large properties are the rule. Further, we have also acquired Vanderburg's portion of Middlelei also. This is supposed to be on the extension of the Randfontein series, but being further off from the actually developed mines of the Randfontein series, it has less immediate value. I may mention that a hitch has arisen with regard to the registration of the mynpacht, which is the portion of the property reserved for working on mining terms by the owners. But Mr. Assmuth, the other managing director, who is also the vendor of the property, has left London for Johannesburg, and hopes to settle this matter with the officials immediately on his arrival, without any trouble. Should he be unable to do so, he has agreed to resign the whole of his vendor's consideration, with the exception of 1000 shares, and these we propose to devote to the acquisition of single blocks of claims, which will make up an area equal to that of the mynpacht, should we not obtain it. So that the matter stands in this way—that the company will not be materially affected whether we get the registration of the mynpacht effected immediately or not, for in the latter case we shall take our property in another form. As I have said, the company has only just started work, and the preliminary details are not yet completed, but I have one piece of agreeable information to impart. Mr. Lomas, one of the managing directors at Johannesburg, who is particularly well acquainted with the district, cables that he has secured what I may call an immense block of 500 claims at Farm Doornkop on practically nominal terms. He has not stated in the cable the exact locality of the block, but I should say, as a supposition, it was probably on the dip of the Steyne Estates reef. At any rate, he has acquired it on such purely nominal terms that whether we hold it as a pure speculation or with the idea of floating subsidiary companies, you have undoubtedly done an excellent deal. I should like to take the opportunity of adding that our two managing directors at Johannesburg, Mr. Lomas and Mr. Assmuth, have been resident on the fields a great many years, and are practical mining men, acquainted with all the conditions regulating business on the fields, and they are also well acquainted with the value of the reefs. They are

The half yearly general meeting of the above company was held at the office of the company, No. 6, Queen-street-place, on Thursday last, the chair being occupied by Mr. RICHARD DONAGAN.

The SECRETARY (Mr. H. Swaffield) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—We are very much pleased at being able to present to you so favourable a report. At our last meeting, in April last, I spoke of there being a decided indication of coming rise in the price of lead. Expectations of this kind are not always realised, but on this occasion they have been. Of course, the price now obtainable is one which in years gone by we should have regarded as a very low one, but after so long a period of extreme depression, and of miserable prices, the value which lead now commands is, at all events, comparatively good. After going below £10 a ton, it was some consolation to find it creeping up to over £10; and thus, when it got up to £11, and even over, it was more than a consolation, and became a distinct encouragement. The result has been that the profit shown by the accounts, now before you, is a trifle more than double what it was last half-year; and instead of a dividend of 4s. 6d. with £250 put to reserve, which was the extent of our achievement in April last, we have now been able to pay a dividend of 7s., and to put the liberal sum of £750 to the reserve fund. In the half-year under review there were sales of lead in the early part of it at lower prices than those realised towards its close, and thus it is only fair to conclude that our sales in the current half-year are yielding more profit than the sales in the past half-year, and if the prices, during the remainder of the current period, should continue to rise, so that our stocks at its close should again bear an increment, we may have some satisfactory results to show at our annual meeting next April. We cannot tell; but, of course, you will understand that a part of the profit which we are now dealing with, is attributable to our stocks at the close of the half-year having been valued at a somewhat higher figure than the valuation of the stocks with which the period commenced, so that any rise or drop in the value, if it should occur, would act one way or the other on making up the next account. For your information, I may mention that we have quite recently sold lead at £11 1s. 3d. a ton. (Applause.) At our last meeting I referred to the approaching retirement of our excellent superintendent, Mr. Tonkin, and accordingly he gave up the reins to his son on June 30 last, and shortly afterwards came to England. He attended the next board meeting with a view of speaking of any subjects which the change of management brought to the fore, and we considered that that was the proper occasion for making to him some slight acknowledgment of his eminent services to the company. Accordingly, we presented him with a cheque for £300. Of course, we might have left this until to-day, and have made it the subject of a vote by you, but it would have been a case of being rather more than a day after the fair, so your participation in this must take the form of expressing your hearty approval of what we have done, and that you, I feel assured, will enthusiastically accord. With regard to his successor—his son—we can only say that we are perfectly satisfied with his performance of the important duties which he has undertaken, and he is evidently loyally following in the footsteps of his father, and the staff and men appear to be as loyal in aiding and abetting their now and younger chief. In our report we shortly refer to the opening of a branch line from the railway to our smelting works, and if you will refer to the smelting report of Mr. Tonkin, jun., you will see that the new tramway is working with regularity, and that all cart work between the railway and the works has been abolished, and a saving in traffic cost thereby effected. Mr. Taylor will give you the latest news from the mine, and I beg to move the following resolution:—"That the reports now taken as read, together with the accounts and balance-sheet, be received and adopted."

Mr. E. L. AGAR seconded the motion.

Mr. JOHN TAYLOR said: Gentlemen—I spoke at the last meeting of the crosscut which was being driven from the 200 fathom level south of Peili's engine shaft to unwater the levels which had been driven from the bottom of what was called the 276 mine. Now, good stones of ore had been met with in these levels, but the amount of water encountered there, I think I mentioned at the last meeting, was so great that the drivage had to be suspended for a short time. It is, therefore, very satisfactory to know from this report that this crosscut is being driven at the rate of 1½ fathom per week, and that the agents tell us they hope to unwater these levels before the end of the year—within the next two months, in fact. The 175 fathom level west of Warne's crosscut, where a great improvement took place a short time before our last meeting six months ago, has been prospected for a very long distance, and the value has been from 1 ton to a ton and a-half, quite rich enough for the present price of lead. At the date of the last report, October 9, the lode was large and open, and producing good lumps of ore valued at a ton per fathom; still going in ore ground. In the 200 fathom level west of Peili's engine shaft, the same report tells us the lode had increased, and was yielding good stones of ore. In the 175 fathom level, 165 east of Taylor's engine shaft, has been a capital level for some four or five months, the lode at one time being reported as worth 5 tons to the fathom. For a considerable distance the lead

was driven in ground worth 3 tons to the fathom. The 185 fathom level going on under this ground has recently improved in value, and I think, therefore, we may hope soon to hear that this deeper level has reached this shoot of ore. The result of the half-year's working, as you will have gathered, has been to fully maintain the returns, and also the reserves of ore ground at the figure they were given at six months ago—7000 tons. In regard to the future, I think I may certainly say that the outlook for the coming year is most hopeful. In the old mine we are laying open fresh ore ground in the 200 fathom level south of Peill's engine shaft. In the Quinientos Mine developments in the 165 and 185 fathom levels are likely to be very satisfactory. With this very welcome increase in the price of lead our prospects now are certainly most encouraging. (Applause.)

Mr. WILDE congratulated the directors on their resolve to increase the reserve fund. He was sure, moreover, that he was speaking the feelings of everybody in the room when he said that they were very glad that the directors had resolved to recognise the important services which Mr. Tonkin had rendered to the company. He did not know any body who had deserved better of that company than he, and he, no doubt, richly deserved every mark of appreciation they could bestow upon him.

Mr. MOTTRAM heartily concurred in this view.

The motion for the adoption of the report and accounts was then put and carried unanimously.

Mr. JEPPE, in moving a vote of thanks to the directors, managers, and secretary, said the matter and manner of the Chairman's speech had been most encouraging, and he believed the future of the company would be a successful one, and that there were many dividends to come.

Mr. WOODS seconded the motion, which was unanimously carried. The CHAIRMAN, in returning thanks, spoke of the increased use of lead for electrical purposes, and expressed his conviction that the future of the company would be a satisfactory one.

The proceedings then terminated.

THE FORTUNA COMPANY, LIMITED.

The half-yearly general meeting of the above company was held at the office of the company, No. 6, Queen-street-place, on Thursday last, the chair being occupied by Mr. ROBERT HENTY.

The SECRETARY (Mr. H. Swaffield) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—You have all received copies of the report and accounts, and it will be for you to say presently whether you will adopt them. Before I put that question I may say a few words to you in regard to the position of the company. We do not

come before you in a very cheerful mood, but circumstances have been very adverse during the last half-year, and, unfortunately, though during the last few years we have managed to get a small dividend, it is on the present occasion great disappointment for us to call you together with such a small dividend to declare. The result of the half-year has been that the profit has amounted to about £1049 10s. 6d. We have been enabled to make that by a considerable improvement in prices, but then Nature has been against us, for our produce was not equal to what it has been. People who enter into mining must be prepared to strike a balance between good and bad times; but, unfortunately, this decline in the value of our produce has happened at an inconvenient time, just when our prices have to some extent improved. We have saved something in the way of labour costs by the use of rock-drills, which have been introduced in order to enable us to carry on the works with expedition. We are now driving some of the bottom levels, and there are one or two which are opening up somewhat better. I do not think, therefore, although I may be somewhat of a Job's comforter, we are altogether in such a depressed condition as, perhaps, you might think, and when you hear Mr. Taylor's observations you will, perhaps, say that I have looked upon the condition of the mine rather more unfavourably than I ought. There is little else that I can say, except that with the experience of our managers, and of the directors, you may rely upon it that everything will be done to further the interests of the company. One thing which has taken place since the last meeting, to which I must refer, is the retirement of our late manager, Mr. Tonkin. He has so often been here, and we have so often referred to his good works in connection with the company, that I have little to say as to that now, except that his conduct of the company's affairs during his long service has been eminently successful, and in every respect so satisfactory, that upon his retirement we thought we ought not to let him go without giving him some little honorarium as an acknowledgement of his services. Considering the Fortuna Company has been less successful lately than the other companies which were under his supervision, it was thought desirable by the directors that the honorarium should be, as far as possible, apportioned to our means, and, therefore, on behalf of the company there was £50 added to the gratuity that was presented to him on his departure. I hope the shareholders will endorse the action of the board. A telegram has just been received to the effect that £11 12s. 6d. has been offered for our lead, and this is a very considerable improvement on what we have been receiving. Perhaps Mr. Taylor will now say something about the mines. The Chairman concluded by moving the adoption of the report and accounts.

Mr. JOHN TAYLOR said: Gentlemen—There are at present several points—two in particular—which I shall speak of, at which exemplary work has been carried on that we have good reason to hope may lead to discoveries of fresh bodies of ore—or rather bodies of ore in fresh places. At the La Graciosa Mine an interesting trial is being made by driving the 80 fathom level west of Palagrave's shaft, passing through ground which was extremely good in the shallower levels. The section on the wall shows where a large body of ore has been worked out above, and a large stoppage carried down under the level immediately above. This will pass through the ground and communicate with Swaffield's shaft by means of a mine. At the date of the last report (October 9) that level had been driven only 4 metres, and I have great hopes we may hear before long of productive ground having been met with in this place. The point of the greatest consequence to us now is the driving of the 212 fathom level east of Taylor's shaft in the Salidoro Mine. By going under the place where the lode was so rich in the level above we hope to lay open some rich ground during the next few months, and this particular point is very interesting, because it is here we are working with rock-drilling machinery for the first time in the history of the Linares mines. All the shareholders will, I am sure, have read with great satisfaction the statement in this report that we are able to get through the ground at twice the rate of hand-labour. I may tell you that in the last month with which we have to deal a very considerable distance—87 feet—was driven with rock-drills. That, you will understand, speaks well not only for the makers of the machinery, but also for the Spanish miners driving the drills. The falling-off in the reserves has caused our agents great anxiety, but I trust that before many weeks are over we may find at the points I have indicated that we have substantial additions to our developed ore. I may say, at the same time, that in order to meet this period of depression, every effort has been made to work the mines as cheaply as possible. Among other things, a substantial reduction has been made in the expenses of management, and this and further economies will, I hope, enable us to carry on the mines, if not to make a fair profit.

Mr. LEWIS called attention to the London expenditure, which he thought rather heavy.

The CHAIRMAN said that the offices and London establishment had to be carried on whether the times were good or bad, and the anxiety of the directors was much greater in the latter case than in the former.

Mr. WILDE said the directors would undoubtedly have a great deal more trouble and anxiety when the mine was not paying well than when it was. It was essential that the directors, who were simply the managing partners of the concern, should be paid well,

because a good deal depended upon the judicious way in which the lead was sold.

The motion for the adoption of the report and accounts was then put and carried unanimously.

A motion was also passed authorising the writing-off of £250 from profit and loss account to the credit of mines, machinery, and building account.

A vote of thanks to the Chairman terminated the meeting.

THE ALAMILLOS COMPANY, LIMITED.

The half-yearly general meeting of the above company was held at the office of the company, No. 6, Queen-street-place, on Thursday last, the chair being occupied by Mr. ROBERT HENTY.

The SECRETARY (Mr. H. Swaffield) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—Before asking you to adopt the report and accounts, I have a few remarks to make. We meet to-day in a better position than on the last occasion. Circumstances have been rather more favourable. We have, to our great advantage, found an increased deposit of lead ore in various places, and we have also had the satisfaction of selling our lead at a considerably improved price. These two circumstances together have put us in a better position, and our profits have been £2867 odd, and a dividend of 1s. 6d. per share has been declared, which is more than we had last time. The circumstances in connection with this company are the same in many respects as those I have been speaking of, and as I see nearly all the shareholders here who were present at the other meeting, it hardly seems necessary for me to go over the ground again. The railway to our works has been completed, although the saving which this will effect has been of no advantage to us in the past half year, we shall derive great benefit from it in the future. Under the circumstances, we are able to come before you under more satisfactory conditions than might have been the case. I must say a few words as to the loss of the services of our old and trusted manager, Mr. Tonkin. He has been there a great many years, and, on retirement, has left his son there, who has been so thoroughly trained and instructed that we feel that we shall not suffer by the change that has had to be made. On Mr. Tonkin's retirement it was thought desirable to make him a present in acknowledgment of his past services. The present was proportioned between the three companies, as well as it could be according to their prosperity, and it was thought that £150 would be a fair sum for the Alamillos Company to pay. I hope you will feel satisfaction at what the directors have done. The Chairman concluded by moving the adoption of the report and accounts.

Mr. RICHARD DONAGAN seconded the motion.

Mr. JOHN TAYLOR said: Gentlemen—There is not much to be said to-day about the mines, nor are there, I think, any particular points to be described. A considerable return of ore has been made during the half year, and continues to be made from the upper levels of the different mines in the eastern section of the property, and good ore ground has been developed between the 40 fathom and 60 fathom levels. In the 40 fathom level east of Santa Agueda's shaft the agents anticipate opening up a good productive lode. It will be noticed from this report that the works of exploration in these shallower parts of the mine are being prosecuted in a very considerable number of places. The tributaries have continued to return about 30 tons a month, and I trust that with the substantially increased prices that we can now obtain for our lead, it will be possible to get more men to work on this admirable system of tributaries, and so add to our output from workings which have been for the time disused.

The CHAIRMAN said he remembered when it was stated that the mine could not be worked when the price of lead was less than £16. They had worked it without appreciable loss at under £10, and now the price was up to between £11 and £12.

The motion for the adoption of the report and accounts was then put and carried unanimously, and a vote of thanks to the Chairman terminated the proceedings.

RHODESIA GOLD REEFS (PURDON'S), LIMITED.

The first ordinary (statutory) general meeting of the shareholders in the Rhodesia Gold Reefs (Purdon's), Limited, was held yesterday at the Cannon-street Hotel, the chair being occupied by Mr. C. McCULLOCH.

The SECRETARY (Mr. W. A. Stearns) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—The object of this meeting is to give an opportunity to the directors to report to the shareholders that the properties that they have acquired have come into the possession of the company, and I have now to tell you that all the properties that the company bought have been duly transferred, and that work is proceeding on them. Everything has been arranged entirely satisfactory, and in connection with that there is not a word of explanation or anything else that is necessary. It affords me and my colleagues at the board great pleasure to say that the more we see of Mr. Purdon, who is vendor of these claims, the more we have reason to congratulate the shareholders on being associated with a man of his high character and sterling qualities. I know he wrote home that his object had not been to acquire a great number of claims, but what he had aimed at rather was to get claims of quality—claims that would ultimately be a credit to himself for having selected and secured them—and so far as I am aware there is every reason to believe he has been successful in carrying out the principle on which he started. You know, I dare say, that all miners, and particularly gold miners, have certain superstitions—I believe they are allowed to be superstitions. Now, in connection with this company there has been a superstition. I was not aware of it until I compared notes with other members of the board, but on reading over the documents the first time, and after thinking about the matter, I got it into my head that of all the claims that had been put forward the one to deal with first was the Lady Midas, whether it was because it was a lady or not I do not know. I compared notes with my colleagues, and found that in every case the same idea had occurred, although without absolutely knowing anything about the properties. Now, oddly enough the first mine to which Mr. Purdon directs his attention is the Lady Midas. He has been developing that, and I will now read to you some extracts from one or two of his letters, which, I think, will convey to you an idea of the character of the man that we have in charge of our properties out there and conducting the work, and also give you a little insight into what, I trust, will be the future of the undertaking. On September 9, when he had only been out there about a month from the time of the formation of the company, he wrote:—

"For the information of the board I report that considerable progress has been made with the development of the Lady Midas, acrosscutting north and south being in progress at the 30 foot level to cut the reefs. In the north drive, after about 10 feet of driving a quartz leader has been struck, varying from 9 to 18 inches in width, panning very well indeed, and in places showing visible gold. I have no time before the mail closes to have it assayed, but I will have it done during the week. Judging from the position and dip of this leader, we should not be far off the main body of ore at this level." He then goes on to mention other properties which he is developing, but I want to keep your attention to this particular mine. A week afterwards he writes: "I have much pleasure in informing the board that on the Lady Midas, I have struck the south reef at the 30 foot level in the south drive. This is a good solid body of ore, and, judging from pannings, of which I had numerous taken

when out yesterday, it should run anything between 1 ounce and 1½ oz. to 1 ton. The gold is heavy and is well in the stone, there being very little visible. As this reef was first struck the day before yesterday, I am afraid I will not be able to report its width by this mail. The leader I reported striking in the north drive in last week's letter on this property I personally inspected, and find it is increasing in substance as it goes down. It is undoubtedly only a leader, as when the drive was continued beyond the schist on the other side, the ground was 'made,' or, in other words, the quartz had been worked out by the ancients, and the stopes filled in with silt from the surface. The old stope appears to be about 5 feet wide, so that the reef worked out must have been about the same width. I consider this a most promising feature, and I hope to strike this reef at the 50 feet level, unless the ancients also got down that far; the broken quartz, which is lying embedded in the clay in the stope, is fairly good, but there is very little of it, showing that the whole reef must have carried payable gold, and, consequently, was all taken out. The quartz from the leaders which I had assayed went 17 dwt. This is not the richest stone in the leader, as I carefully picked out all stone showing visible gold, and did not have it assayed, as I wanted to find out the assay value of the poorest quartz. I am having assays made of the quartz taken from the main body on the south reef, and will let you have result next mail. I have come to the conclusion that the reefs in the Lady Midas property are true fissures." Now, I would like you to note the tone in which these letters are written. My experience of Mr. Purdon is that he will never commit himself to a prophecy. He will never say that he expects a thing, but he waits until he has personally satisfied himself as to the facts, and it is only then that he communicates them to us. In view of this meeting, we cabled out to him to communicate any news of interest, and this is the cablegram we received a few days ago: "Twelve shafts in progress; 300 feet; work completed" (that is not all on the Lady Midas, but on the different mines that he is developing). "Up to the present struck the lode in six pannings give encouraging results, with the exception of two, which are fair, and will require further development. Assays of ore, from 30 feet level, Lady Midas will average 30 dwt. per ton." (I want you to note that whereas in his letters he referred to 17 dwt., he now speaks of 30 dwt.; he waits until he has absolutely satisfied himself, and now he communicates the facts.) "Expect to strike reef at a depth of 60 feet the week after next. Have located 80 additional first-class claims with prospecting licenses." I cannot tell it for a fact, but I believe that part of these claims that he has located is a continuation of this Lady Midas which has been doing so well. Now I give you that simply as a sample of the man we have been dealing with, and who is in charge of the works. I think it is only fair to you and to him that I should say that that is not an individual opinion of the board, but if you will allow me I will now read an expression of opinion in connection with this company in a circular issued in Bulawayo, by people who know everything that is going on, who know the companies that are floated, and, more or less the properties that are selling. After referring to two or three companies whose names I am not at liberty to mention here, the writer goes on to say:—

"The time will, we hope, shortly arrive when, if we may so describe them, 'hotch-potch' flotations will cease, and when investors will pay less regard to the quantity than to the quality of their mining interests. We would impress upon investors that one good property is worth a thousand bad or indifferent, and would therefore caution them from taking shares in any venture unless it is clear from the reports of competent and reliable mining engineers that some one or more of the properties with which it is proposed to deal, fall within the former category. Holding these views we have found it a pleasure to peruse the prospectus of the Rhodesia Gold Reefs (Purdon's), Limited, the small nominal capital of which (£75,000), and the modest share taken by the vendors, as well as the ample provision for working capital, stamp it as a venture of an entirely different nature. It is true that no large amount of development has been carried out upon the 220 claims put into the company, but, on the other hand, no extravagant statements as to the value appear in the prospectus; moreover the experience and integrity of the local representative of the company are a guarantee that this venture, though necessarily speculative, will not disappoint its shareholders." Now, I think it is a great satisfaction that we should have such testimony, coming from the spot, from people who necessarily knew more about the properties that have been acquired, and the man that we are dealing with, than people here in London, except those who had previously his acquaintance. Before I finish with that point I may just refer to a cablegram from Mr. Purdon—not sent to the board, but to his friends. He has just wired that he will on no account sell any of his shares. I do not know that there is anything more that I can say in connection with the property. Everything is going on very satisfactorily, and now you have pretty much all the information that we have, and I think you will agree with me, so far as it goes, it is eminently satisfactory. While I have referred mainly to one mine, I have not the slightest doubt, in fact, the telegram indicates that at least four out of six are developing equally well, so I think that by the time we next meet we shall have every reason to congratulate each other that we became shareholders in Mr. Purdon's Rhodesia. (Applause.) If any shareholders have any questions to ask, or remarks to make, we shall be happy to hear them.

Mr. BEVITT asked whether the total number of shares were applied for, and how many had been issued.

The CHAIRMAN said the whole of the shares were applied for. The provision was £40,000 for working capital, but the board decided to issue only 35,000 shares, leaving 5000 in reserve, but they considered £35,000 would be quite sufficient for all that was required, and they did not have a lot of funds in hand for which they had no use. Moreover, it was hoped that if at some future time they decided to issue the balance of shares they would be able to do so at a much better price.

A vote of thanks to the Chairman was unanimously accorded, and the proceedings closed.

MINING PROGRESS IN BOHEMIA.—Considerable progress has recently been made in the mining industry in Bohemia, and particularly in the brown coal districts, where the growth of manufacture has caused an increased demand for fuel. Besides various smaller mines of brown coal in the north-west of the Province, may be mentioned a large pit worked by a Vienna company that has just been equipped with new modern appliances on an extensive scale. The same company has purchased two new coal fields. One of these, which has just been opened, is estimated to yield annually 3,000,000 metric centners of coal for 80 years to come. A second company is also about to open a new mine, and the proprietors of a third coal field intend to turn their business into a company, with a capital of about 7,000,000 fl. Preparations are being made near Kaaden for working beds of kaolin, while a deposit of felspar which has been discovered at Proschwitz will also be exploited. It is considered likely that the presence of sulphur and arsenic will lead to the establishment of a chemical factory, and serious efforts are now being made to reopen the gold and silver mines for which Bohemia was at one time celebrated.

REVIEWS.

The Lixiviation of Silver Ores with Hyposulphite Solutions; with Special Reference to the Russell Process. By Carl A. Stetefeldt. Second edition. Published and sold in the United States and Mexico by the Author. For all other countries the sale is conducted by Craz and Gerlach, Freiberg-in-Sachsen, Germany.

A new edition of a work on the Russell silver extraction process, by the acknowledged leading authority on the subject, is an event of sufficient importance to call for notice, more especially when the new edition is so far altered and enlarged as to be almost a new book. It is true that a great part of the volume now before us has already been given to the world in the transactions of scientific societies, especially in those of the American Institute of Mining Engineers, yet its value is none the less especially great for all metallurgists engaged in the wet extraction of silver. The author, in his introduction, compares lixiviation with amalgamation, and points out that the former has the advantage of requiring less fine crushing, a plant lower in first cost, much less horse-power in operation, a far smaller amount of locked-up capital, less care and less salt in roasting, whilst the value of the chemicals consumed is less, and the percentages of silver and of gold extracted are greater. On the other hand, he admits that lixiviation requires greater scientific knowledge and closer supervision, entails the objection of having to handle large volumes of solution, with the consequent risks of leakage, and produces the precious metals as sulphides, which are more difficult and expensive to convert into bullion than in the corresponding case of amalgam. Upon the whole, however, where smelting is not possible, he considers lixiviation the most advisable process, and of all lixiviation processes he seems to give the palm to Russell's. This is a modification of Von Patera's old process of leaching out chlorides and other compounds of silver by a solution of hyposulphite of soda. Russell discovered that an admixture of sulphate of copper with the hyposulphite of soda acts far more powerfully than does the latter salt by itself, and he, therefore, supplemented the ordinary solution by what he termed his "extrasolution," which contained the copper salt.

Mr. Stetefeldt's work on this process is divided into two parts, the first giving a full, careful, and accurate account of the chemistry of the process, of the reactions of the various solutions upon the several compounds of which silver ores generally consist, and of those of the different precipitants upon the solution. The second part gives an account of the method of practically executing the process, and of the results obtained in a few prominent mills. We think that this latter part might, with advantage, have been rather more extended, and we should have liked to have seen fuller descriptions of the plant employed. No doubt it is ample as it stands for men who have a practical acquaintance with the Russell process, or, at any rate, with the ordinary lixiviation process, and Mr. Stetefeldt may say that he writes for no others. In this case he should, perhaps, have said so in his preface, instead of leaving it to be inferred. For the metallurgist, however, as distinguished from the mere student, it would be difficult to produce a more satisfactory treatise, and as such it will take high rank amongst modern works on metallurgy.

Economic Mining. By C. G. Warnford Lock. Published by E. and F. N. Spon, London.

Mr. Warnford Lock is a voluminous writer upon mining matters, and he has now added a new work upon "Economic Mining" to the list of books with which his name is already connected.

The book under notice is practically a summary of all other works on mining, both metalliferous and non-metalliferous, and the writer has availed himself of the mass of literature on the various branches of mining for the compilation of his work.

Beginning with the subject of prospecting and treating of the permanency of ore bodies, the author says: "The fissure vein and its permanency is fallacy founded on erroneous notions of the history of ore bodies, and while it must be admitted that only exploration will develop deep-lying deposits, it must be remembered that the rule is for ore bodies to decline in size and value as depth increases, though, of course, some exceptions to this rule are encountered. In at least nine cases out of ten it will be found that if a mine does not pay for working the upper levels it will pay still less in depth." This will be news for a vast body of self-educated mining men, but they and the promoting world in general will do well to lay it to heart. Power-drilling, blasting, sinking, ventilation, and draining are the next subjects dealt with, and the author goes on to deal with the mining and winning both of metalliferous lodes and coal seams. Next comes the reduction and concentration of ores, and here we fall foul of the author for devoting so small a portion of his work to so great and important a subject, the more especially as the appliances described are not as much up to date as we could have desired. No illustrations are given of modern mills, nor is the all-important subject of the amalgamation and cyanidation of gold ores prominently brought forward, although we must remember that the author has other books devoted to gold and gold mining.

A description of the characteristics and mining of non-metalliferous minerals next follows, and under this head we find some interesting particulars relative to coal and diamond mining and washing, upon which subjects the author has been at some pains to acquire the most recent information.

Half of the book has been devoted to the matters already reviewed, and the remainder is occupied with the treatment on similar lines of metalliferous minerals. Taking them alphabetically, from aluminium to zinc, we find a *résumé* of the general lines upon which they are mined, and the manner in which they occur in the principal mining districts in the world.

We must confess that we are disappointed at the meagreness of the information given as to the occurrence of gold in the Transvaal. The Rand is dismissed in 10 lines, and the remainder of the two pages given to South Africa is devoted to the De Kaap district, while the whole subject of the reduction of quartz and the recovery of gold is condensed to one page.

The book, taken as a whole, presents in a condensed form a mass of useful information relative to the mining and milling, not only of metalliferous but also of non-metalliferous minerals, with frequent references to the sources from whence the information is derived, so that the reader can thus discover the names of the books and authors who have dealt fully upon any particular subject. It has evidently been compiled with great care, and as the writer is both theoretically and practically acquainted with mining, the reader can feel considerable confidence in the accuracy of the matter laid before him.

A Glossary of the Terms used in Mining Geology. By F. Danvers Power, F.G.S. (Published by the Australasian Institute of Mining Engineers. Price 3s.)

Most of our readers are by this time familiar with the name of Mr. Danvers Power, a young geologist and mining engineer, who has contributed articles of interest to the columns of *The Mining Journal*. Mr. Power, however, is more widely known in Australia than in England, and out there he has a reputation

which older and more experienced men have to envy. After a stay in England for some time, he last year went out again to Australia, to fulfil an important engagement. Whilst there his pen has not been idle, for he has regularly contributed articles on various subjects to the columns of the leading technical Press, as well as papers to the transactions of the local institutions. One of the latter is the "Glossary" in question, which has been deemed by the executive of the Australasian Institute of Mining Engineers so important a literary contribution, that they have issued it as a separate publication, for which they charge the moderate sum of 3s. It cannot be said, however, that in compiling this work, Mr. Power has satisfied a long-felt want, for we do not labour from a dearth of such aids to mining. However, it is difficult to have enough of a good thing, and, therefore, we can heartily welcome this addition to the literature on this subject. We feel quite sure that in Australia it will meet with a warm welcome, and have in consequence a large sale. We cannot feel convinced, however, that it will meet with the same appreciation on this side of the water. We hope, however, that it will thoroughly meet with its deserts.

THE MINING SCHOOLS OF GERMANY.

AMONG the many mining schools of Europe few, if any, are superior to those of Clausthal in the Harz Mountains, and Freiberg, in the mineral mountains of Saxony. Throughout Germany the question of education, especially practical, technical, and industrial education, takes precedence of all others. In a recent report on the technical and trade schools of Germany, the United States Consul at Chemnitz selects the Clausthal establishment as an illustration of what is best in the mining schools of that country. It is surrounded by mineral mountains, into which shafts have been sunk, and at whose bases are situated, in active operation, a great many smelting furnaces, machine shops, and factories. The value of these to the student is incalculable, and much of the success of the school is undoubtedly due to its favourable situation. Its origin, which dates back to the end of the sixteenth century, was due to a desire to furnish regular and exact instruction in the mathematics and mechanics necessary to the successful mining of the many metals and minerals known to be in the surrounding hills. Besides its service to the State on whose soil it is situated, it has received from and sent back to every State in the empire, and almost every foreign country, trained students of almost every trade or profession calling for skill in chemistry, mineralogy, mechanics, mathematics, &c. For four centuries the Harz Mountains have been worked, and at the present day, in spite of tremendous difficulties, by means of scientific methods, these mines are made profitable. The State works the mines and supports the school. Within a circle of three miles are the most important lead, silver, and copper mines, and the smelting works of the Upper Harz. Some of the mines are worked to a depth of 3000 feet, with veins 150 feet wide. One great advantage the students have is in seeing all kinds of ores smelted. Ores from all countries come from Clausthal to enter the crucibles and come out refined. The school aims at giving such a scientific technical training as will fit the students to take charge of mines and smelting works of all kinds and sizes. There are practically two courses—preparatory and advanced. The preparatory course is to give those who wish to take the advanced or lecture course such a training as will enable them to get all the good out of the advanced course when they arrive at it. To this end the preparatory course carries them through the various works, plants, and machinery, until the student is familiar with technical terms, the *modus operandi*, &c. The course begins each year in the week following Easter Sunday, and continues 24 weeks. Eight weeks are devoted to mining, eight to the concentration of ores, and eight to smelting. In the advanced course, the lectures begin in October and close in July. There are very valuable geological collections connected with the school, and for the use of the students. The library has a collection of 14,500 volumes, covering almost every scientific subject, but more especially mines and metals. Besides this, the library of the Royal Mining Department (13,500 volumes) is at the disposal of the students; also a collection of over 500 models showing descriptions and structure of veins, rocks, &c.; appliances of various kinds, ancient and improved, for mines and metallurgical operations; machinery for dressing ores; for showing construction of supports, buildings, &c., supplemented by numerous charts and drawings used in illustrating lectures. There is a chemical library, with working room for 50 students at a time, with all the utensils, &c., necessary for practical work, such as preparations and apparatus to illustrate lectures on chemistry, and preparations for chemical technology; an assay laboratory, with everything needed for wet or dry assays: 500 excellent cabinet specimens to illustrate geologic conditions; a general collection of useful minerals, consisting of small specimens from all countries, and classified; a collection of metallurgical products, ores, furnaces, fuels, &c.; a collection of instruments such as are used in surveying mines, and many other useful aids to a thorough knowledge of all appertaining to mining and metallurgy.

To be admitted to this school, students must be at least 17 years old, and must give proofs of a sufficient preliminary education and good moral conduct. Germans must show a certificate that they have gone through a German school of nine classes; foreigners must submit proof of equal qualification. There are special students who are allowed to enter if it is considered that they have had an education sufficient to enable them to understand the lectures. Special students, after one year's faithful work, are granted the privilege of becoming regular students, by passing a good examination in elementary mathematics. For one hour a week, instruction in assaying, blow-pipe, and volumetric analysis, a fee is charged of 4-50 marks (mark, equal 1s.); one hour in any other branch, 3 marks; daily work in assaying, or in quantitative and qualitative analysis, 60 marks for the winter term, and 45 marks for the summer term, and for one month, 18 marks; for assaying, one day per week, 24 marks for the winter term, and 18 marks for the summer term. These very moderate fees will show how easy it is for Germans to get a good technical education. Students may be examined in any subject taught in the school, and in everything in mining and metallurgy. If successful, they get diplomas and certificates of fitness, signed by the proper authorities. There are examination fees of 30 marks, when three students come up at once, and 6 marks for each additional student. For the degrees of mining and metallurgical engineer, 75 marks are charged, and 60 marks if for one of these alone—i.e., mining engineer or metallurgical engineer. The studies themselves comprise (1) trigonometry, algebra, and geometry; (2) physics, practical physics, electricity, and mechanical theory of heat; (3) chemistry, theoretical chemistry, practical work in the chemical laboratory, chemical technology; (4) mineralogy, practical mineralogy, general geology, special and practical geology, and ore deposits; (5) elementary mechanics, higher mechanics, instruction in the construction of machines; (6) concentration of ores and mining; (7) surveying; (8) metallurgy and fuels—general metallurgy, special metallurgy, lectures on fuels and metallurgy of iron; (9) blowpipe analysis and assaying; (10) general jurisprudence—historical, Roman, church, German and Prussian laws, private rights, State laws, German mining laws, general doctrines, ownership of mines, mining companies, miners' customs; (11) political economy—trade statistics and administration; (12) emergency lectures—physiology and anatomy of the human body, and how to aid the injured (means, natural and artificial, general aid, aid in special cases, and transportation of the wounded). During the latest year for which returns are available it appears that of the total number of persons attending the Clausthal School, 110 were Germans, 18 English, 1 Dutch, 13 Americans, and 11 students whose nationality was not distinguished.—*Journal of the Society Arts.*

METAL CIRCULARS.

Messrs. JAMES LEWIS and SON'S, Mid-Monthly Report on Copper, dated Liverpool, October 16, has the following:—The market for good merchantable copper has been rather irregular during the past fortnight, and only a moderate business has been done. From £46 8s. 9d. on the 1st inst. the price of cast copper gradually improved to £47 6s. 3d. on the 4th inst., but, owing to large sales, it declined further to £46 7s. 6d. on the 11th, and on the 15th inst. it declined further to £46 1s. 3d., and the closing prices to-day are £46 1s. 3d. cash and £46 8s. 9d. three months. The chief reason of the break in the market is undoubtedly the unsettled state of the Stock Exchange, combined with the uncertainty of the iron and other metal markets.—*Electrolytic copper.* The demand for this still continues good. Most makers are fully sold up for the remainder of the year, and are holding for high prices for forward delivery. Continental consumers especially, are eager buyers, electric traction having made great progress there. Sellers of argentiferous copper seem to have realised that consumers cannot pay the exorbitant prices asked for this material, and a fair quantity is now offering at a more moderate rate. Exports of copper from New York for the last fortnight amounted to 1820 tons, as against 1865 tons for the corresponding period in September. The total stock of American copper in this country now amounts to 1606 tons only, as against 4812 tons on December 31 last.

Producers' returns are as follows:—

	September.	1895.	1894.	1895.	1894.	Jan. to Sept.	Jan. to Sept.
European production...Tons	6,945	7,110	63,548	66,995	88,505		
American production.....	11,251	11,257	111,677	109,582	142,473		
Do. Imports.....	1,100	1,500	12,400	12,387	17,89		
Do. Exports*.....	4,105	7,030	48,948	60,495	77,133		
United Kingdom.....						Tons	895
France.....							402
Germany, Holland, &c.							2,807
Mexico.....							4,105

American exports for the first half of October are 1820 tons. Stocks have decreased 780 tons, and the visible supply 26 tons during the past fortnight. Imports to date are 5518 tons less, and deliveries 2540 tons greater than last year. The arrivals in England and France for the fortnight have been 3601 tons, and the deliveries 4381 tons. The arrivals of Chili in Liverpool and Swansea have been 1057 tons and the deliveries 1082 tons, and from other countries 1873 and 2269 tons fine respectively. The arrivals here and in Swansea from the United States have been 17 tons bars, 15 tons ingots, and 594 tons matte, equal to about 380 tons fine, and in France 155 tons fine. The Chili charters for the past fortnight are advised as 1800 tons, and exchange 17s. The sales of furnace material have been confined to 55 tons Portuguese, 28 tons argentiferous River Plate regulus, on private terms.

Messrs. HARRINGTON AND CO'S Copper Report, dated Liverpool October 17, says:—Chili charters for the past fortnight are advised as 1800 tons, making the total since December 31 last 18,390 tons, against 16,950 tons same time last year. Exchange 17s. Since our last the market for G.M.B.'s has been irregular, and business was done from £47 6s. 3d. cash, and £47 13s. 9d. three months down to £45 17s. 6d. and £46 5s. respectively, closing dull to-day at £46 2s. 6d. and £46 10s. three months. The total stocks in Liverpool, Swansea, London and Havre are 48,613 tons, against 49,393 tons on the 1st inst., showing a decrease of 780 tons for the fortnight. The stocks include about 2600 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 52,473 tons, against 52,504 tons on the 1st inst., showing a decrease of 26 tons. Refined and manufactured sorts are steady. Quotations being:—Tough cake £50 to £50 10s., best select £50 15s., to £51 5s., Indian sheets £53 10s., strong sheets £57, and yellow metal sheets 43d. per lb. The sales of furnace material only comprise 55 tons Portuguese, 28 tons argentiferous River Plate regulus, on private terms.

The total imports of Chili and other copper into Liverpool and Swansea since January 1 have been 53,171 tons; deliveries during the same period 52,622 tons fine; for same time last year the figures were 53,342 and 51,252 respectively.

Quotations are:—

	To-day.	October 2, 1895.
Chili bars	£46 2s. 9d. cash and ..	£46 18s. 9d. cash and £
" ore	£46 10s. 0d. 3 months ..	£47 6s. 3d. 3 months ..
" regulus or matte ..	£5. 0d. to 9s. 3d.	£5. 0d. to 9s. 3d.
Precipitate	£5. 7d. 4d. to 9s. 9d.	£5. 9d. to 10s. 0d.

October 17, 1894.

	October 17, 1894.	October 17, 1892.
Chili bars	£41 2s. 9d. cash and ..	£41 10s. 0d. cash and £
" ore	£41 6s. 3d. 3 months ..	£41 17s. 6d. 3 months ..
" regulus or matte ..	£5. 3d. to 7s. 9d.	£5. 0d. to 8s. 0d.
Precipitate	£5. 3d. to 8s. 3d.	£5. 0d. to 8s. 0d.

Tin—The market for Straits opened at £66 3s. 9d., and advanced to £66 10s., but closes to-day at £65 7s. 6d., Australian £66 10s., English £69, and Peruvian £47 to £62, according to quality. Sulfate of copper firm, at £16 10s., to £17 spot and forward. Lead during the past fortnight has been firmer, but closes dull at £11 3s. 9d. for Spanish, and £11 6s. 3d. for English. Spelter—The market since our last has been quiet, and prices are quoted £15 5s. to £15 7s. 6d. for ordinary Silesian brands. Quicksilver—Since our last the market is advanced, closing firm at £7 6s. 6d. per bottle for Spanish.—Bar silver. The market has been firmer, and has fluctuated between 30 11-16d. and 31 3d., closing to-day at 30 15-16d. per ounce standard. Antimony quiet. Star regulus at £31 10s. per ton. Ore irregular, about £7 10s. to £8 for 50 per cent. good quality and produce. Bank rate of discount remains at 2 per cent.

Messrs. HENRY BATH and SON'S copper report, dated October 17, says:—The Chili charters are advised as 1800 tons, but require some explanation. The latest exchange is 17s. 1. There was a good business doing in the first part of the fortnight in G.M.B.'s, values ranging from £47 5s. to £46 17s. 6d. cash. On the 8th instant heavy sales commenced, which carried the price from £47 1s. 3d. down to £46 7s. 6d. on the 9th. After fluctuating 3s. 9d., this was the closing price on the 14th, but on the 15th selling recommenced and the price touched £45 16s. 3d. on 16th, closing, however, at £46 1s. 3d. This morning's closing prices are £46 2s. 6d. cash, £46 10s. forward. The public is quite in the dark as regards the position, and the bulk of the recent operations may be put down as inspired by parties controlling large quantities of copper, and not all in the same interest. Consumption is quiet, but converters are still busy in some directions, and the large delivery of bar copper is a healthy sign. It is supposed that the option on the Anaconda mine, which expired on the 15th inst., has been prolonged, but no particulars have transpired. The American market is quiet, but full prices are asked, which do not permit of a general export trade, though specialties are done from time to time. Shipments are moderate, being 1790 tons for the fortnight. The Senator Vermann, which sailed on April 24 with a cargo of 1400 tons fine Boleo copper, arrived off the coast on the 2nd instant. The Star of Austria, a faster ship, which sailed on March 25, with a cargo of 1840 tons fine copper, has not since been heard of, and 90 guineas per ton has been paid on her. The arrivals and deliveries at Rotterdam and Hamburg amount to 870 tons. Imports of American copper into England have been 380 tons, and into France 155 tons, or 535 tons against 1656 tons last year. Total actual deliveries have been 4424 tons, against 3644 tons imports. Stocks have decreased 780 tons. Total visible supply shows 52,763 tons, against 52,843 tons last fortnight. The only transaction in furnace material that we have heard of this fortnight is 55 tons of Portuguese ore on private terms. Supply of West Coast copper may be estimated from the following figures:—Actual stocks at Swansea, Liverpool, and in France 41,052 tons; afloat and chartered for at date of last advices per mail and cablegram, 3150 tons; total 44,202 tons; against 43,647 tons October 2. Sulfate of copper about £16 10s. to £17 cash.—Tin. Closing at £65 7s. 6d. cash, £65 15s. three months. Spelter about £15 5s. to £15 7s. 6d. English about £16. Blends of 50 per cent. is worth

about £3 2s. 6d. and calamine about £3 5s. Lead steady. About £1 3s. 9d. With silver 50 to 80 ounces about £11 3s. 9d. Lead ore of 70 per cent. is worth about £4 per ton.—Pig iron. Closing quotations for Scotch pigs are about 47s. 6d. Middlesbrough, 38s. 9d.; hematite 48s. 10d. cash. Antimony very quiet. Star requires about £32, ore £8 to £3 10s. for 50 per cent. good quality and produce. Grade about £14 to £15 per ton.—Quicksilver. The official prices is £7 7s. 6d. Seconds rather less. Bar silver 30 15-16 per ounce standard. Discount:—The Bank rate remains at 2 per cent.

SOUTH AFRICAN MINES' OUTPUT FOR SEPTEMBER.

THE following are the September returns, so far received, and the results for the previous five months:—

GOLD.									
	Apr.	May.	June	July	Aug.	Sept.			
	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.	Ozs.			
Afrikander	308	303	515	425	283	274			
Barrett	433	555	—	—	—	—			
Block B	3,340	3,126	3,020	3,240	3,581	3,594			
Baffelsdorff	4,326	4,384	4,100	4,660	3,361	—			
Champ d'Or	3,796	3,240	3,625	3,946	4,516	—			
Champ d'Or (French)	3,800	—	3,625	3,920	4,516	3,775			
City and Suburban	8,648	9,491	9,471	10,096	—	8,381			
Crown Reef	10,186	10,321	11,259	11,849	11,531	11,385			
Durban-Roodpoort	5,830	5,838	5,854	5,899	6,006	6,089			
Eastleigh	2,354	2,230	1,362	1,912	2,166	1,994			
Ferreira	6,759	6,977	6,739	7,081	6,921	7,439			
Forbes Reef	101	130	121	141	—	75			
Goldenhuus Estate	6,560	7,457	7,614	7,778	7,788	7,235			
Goldenhuus Main Reef	1,998	2,090	2,127	3,375	2,163	2,088			
George and May	630	910	900	770	—	—			
George Goch	3,169	3,220	3,258	3,052	3,099	3,361			
Ginsburg	887	919	957	930	—	851			
Glencarla	5,317	5,140	4,911	4,918	5,209	5,056			
G. F. of Mashona and	230	311	242	348	—	—			
Henry Nourse	2,170	2,299	3,993	4,561	4,210	4,562			
Joe's Reefs	247	456	299	327	331	—			
Johannesburg Pioneer	1,080	1,155	1,305	1,310	—	—			
Jubilee	2,857	2,624	2,657	2,613	2,707	2,727			
Jumpers	4,801	6,139	6,588	6,108	7,079	6,497			
Langlaagte Estate	13,203	13,006	13,007	12,021	11,472	11,081			
Langlaagte Royal	2,195	2,424	2,064	3,401	—	—			
Lisbon-Berlyn	960	791	691	590	522	640			
May Consolidated	4,279	5,647	6,060	6,025	6,030	6,032			
Metropolitan	2,359	2,315	2,227	2,411	2,173	1,981			
Meyer and Charlton	3,019	3,115	3,123	3,296	3,745	3,642			
Meyer and Leeb	407	268	130	—	—	—			
Mooidea	—	—	—	—	—	515			
New Chimes	2,856	2,366	2,082	2,419	2,459	2,431			
New Clewer Estate	1,902	1,749	1,236	1,389	1,479	—			
New Crosses	—	—	2,059	2,932	3,084	2,851			
New Heriot	5,725	5,773	5,622	5,365	5,738	5,998			
New Kleinfontein	2,709	2,775	2,638	2,826	2,829	2,631			
New Midas	—	309	373	645	—	—			
New Primrose	12,058	11,563	12,018	12,150	12,206	11,418			
New Rietfontein	2,448	2,648	2,292	2,235	2,328	2,448			
Nigel	4,063	4,204	4,235	3,633	3,724	—			
Orion	3,070	3,550	3,650	3,750	3,700	3,719			
Paarl Central	2,714	2,944	3,053	3,127	3,188	—			
Perseus-Randfontein	3,516	4,027	3,939	3,918	4,114	3,921			
Princess Estate	1,883	2,021	1,950	2,100	—	2,000			
Robinson	14,097	14,043	14,601	14,824	15,935	17,294			
Roodpoort United M.R.	4,472	4,599	4,763	4,767	2,450	4,691			
Sainsbury	2,128	2,126	2,614	2,278	2,450	3,043			
Sheba	1,135	1,792	1,499	2,618	4,807	5,842			
Simmer and Jack	8,603	8,888	8,617	7,085	5,543	—			
Sipkophop	—	—	271	269	791	—			
Stanhope	995	1,131	1,157	1,064	1,000	870			
Sutherland Reef	426	518	504	769	—	593			
Transvaal Gold	3,350	2,825	2,450	3,100	3,075	3,175			
United Ivy Reef	—	145	216	—	—	—			
United Langlaagte	—	1,140	1,834	2,261	2,297	—			
Van Ryn	3,008	3,085	3,013	2,911	2,896	—			
Vogelstruis Fontein	—	—	96	36	—	—			
Wemmer	5,532	7,114	7,261	7,481	7,699	7,119			
Webster	2,115	2,400	2,415	2,420	2,420	4,465			
Worcester Exploration	1,965	2,117	2,124	1,748	2,092	1,829			
DIAMONDS.									
Carats	Carats	Carats	Carats	Carats	Carats	Carats			
Lejufontein	2,520	3,150	2,675	3,050	2,320	2,275			
COAL.									
Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.			
Camel Colliery	18,450	19,810	18,000	23,459	20,635	21,500			
Transvaal Coal Trust	26,800	30,200	29,700	33,100	31,400	28,300			
a Battery stopped eight days. b 26 days. c 13 days. d Two days' delay; pumps out of order. f 23 days. g 21 days. h 12 days.									
* Return not yet to hand.									
The following are the profits or losses (the latter being indicated by an asterisk) made by South African mining companies since the beginning of January:—									
	Apr.	May.	June	July	Aug.	Sent.			
	2	2	2	2	2	2			
Cly and Suburban	8,881	10,686	—	—	—	—			
Crown Reef	10,726	14,669	*	14,851	—	15,125			
Goldenhuus Estate	5,300	11,547	10,800	11,400	10,800	10,000			
Goldenhuus Main Reef	2,638	2,510	2,704	3,991	3,342	3,074			
George Goch	3,338	3,974	—	—	—	—			
Glencarla	7,500	7,600	7,250	7,500	7,758	8,009			
Henry Nourse	2,549	2,164	—	—	—	—			
Jumpers	5,552	8,738	10,760	8,000	10,900	10,370			
May Consolidated	3,700	76,164	8,040	7,505	7,369	6,691			
Metropolitan	1,130	674	—	—	—	—			
Meyer and Charlton	5,340	5,310	5,280	4,740	5,570	—			
New Chimes	5,160	3,353	2,282	—	—	—			
New Clewer	9,996	9,598	—	650	1,000	—			
New Kleinfontein	2,179	1,946	—	—	—	—			
New Primrose	17,671	15,680	17,500	17,840	17,505	14,500			
New Rietfontein	1,557	1,779	—	—	—	6,700			
Orion	—	—	5,000	5,000	—	6,700			
Paarl Central	—	—	—	4,105	—	—			
Princess Estate	623	761	—	—	—	—	</		

THE TRAINING OF A MINING ENGINEER.

An inaugural address delivered at the Durham College of Science by Henry Louis, A.R.S.M., F.I.C., F.G.S., &c., Professor of Mining.

I HAVE the honour of appearing before you to-day as Professor Merivale's successor in the chair of mining at this College, and, as such, it is my duty to deliver a lecture that is to serve as preface to my course on mining. This occasion also affords me an opportune introduction to those interested in mining in the North of England, which opportunity I am the more eager to avail myself of, because I am fully conscious of my disadvantage in coming hither as a stranger. As such, I am quite aware that my duty here is a twofold one, to learn as well as to teach, for I shall have to study thoroughly the conditions and methods of mining in this district, as well as to instruct students in the world-wide principles upon which these methods, in common with all others, have to be based. Fortunately for the mining engineer, however much practice may vary in different places under ever varying circumstances, general principles remain the same in all quarters of the globe.

For this inaugural lecture I have elected to lay before you my views as to general principles upon which I would have a mining engineer trained to his professional duties. This subject should possess a certain amount of general interest at a moment like this when we are in the throes of one of the wildest mining "booms" that has ever been known. Many millions of pounds have been invested during the last few months in gold mines, and the public who have eagerly invested in such mining shares, and who have rushed not a few of them to a substantial premium, have done so in very many cases upon the faith of reports made by mining engineers not personally known to them. Upon the correctness or incorrectness of the reports of these engineers will depend success or failure in the investment of all these large sums, and perhaps the fortune or ruin of not a few of the investors. I therefore venture to think that the way in which a mining engineer should be trained for his task, is a question that possesses for many here a very real and even personal interest. At the same time, by selecting this subject I am enabled to submit to you a synopsis of what a course of mining should, in my opinion, include, and to indicate to any future students, who may be found amongst my audience to-day, what their preliminary education should be to fit them for a mining engineer's profession.

It may be well to glance briefly, in the first place, at the nature of the work that a mining engineer may be called upon to do, and the problems that he will have to solve, seeing that his training must obviously depend upon what his duties are to be. We see at once that these may be widely divergent with such a protean subject as mining really is. To take first the staple of this district—namely, coal mining. I find that out of the 540 millions of tons of coal which were produced in the world last year, the district of which Newcastle is the centre raised some 44 millions, a figure that speaks for itself as to the extent and importance of this industry, and warrants me in assuming that you are all acquainted with even the details of coal mining. We may take it that the principal points that an engineer engaged in coal mining will have to study, are such matters as the proper ventilation of the mine, the various methods of securing the roof, the various systems of laying out the mine, and of getting the coal, the sinking and securing of shafts, pumping up mine water, and so on. An engineer who had mastered these and cognate problems would be considered a thoroughly competent mining engineer, as far as coal mining is concerned. Now, we will look a little farther afield, and glance at another kind of mining, utterly different to the first, and yet as much a branch of mining as coal mining—namely, hydraulic gold mining as practised in California. As this class of work is probably less familiar to you, I will illustrate it by a few views of hydraulic mines. In the Western States of America there are huge beds of ancient river gravels, now more or less cemented into beds of firm conglomerate, containing fine particles of water-worn alluvial gold, which have been deposited by the action of the same waters that rolled the pebbles and formed the gravel-beds. Some of these beds are at times a couple of hundred feet thick, and cover very large areas. The gold they contain is not often more than a few grains to the ton, and it is evident that the problem of making a profit out of two or three pennyweight of gold—a few minute specks scattered through a ton of gravel, can only be solved by specially cheap methods of mining. I need not trouble you with an account of how the modern process was gradually evolved. It is enough to say that the gravel is simply washed down by means of a very powerful stream of water. The water is brought from great distances, often of many miles, by means of canals, flumes, and pipes, and is led to reservoirs situated as high as possible above the gravel beds. From these reservoirs large iron pipes are led down terminating in nozzles from 6 to 9 inches in diameter. By this means a stream of water is directed with enormous force against the gravel beds. It is difficult to give anyone who has not seen it any idea of the enormous power of such a stream of water coming out of a 6 inch nozzle under a three or four hundred feet head. The stream appears to be solid; if you strike it with a steel bar, the bar rebounds without entering it as it would from a cylinder of iron. I have seen big boulders, tons in weight, lifted up by the stream of water, and tossed about like marbles. Under such an enormous force the bank of gravel is rapidly sluiced away; the stream carrying boulders, pebbles, mud and, of course, any gold that may be present in the gravel, is directed through a series of sluice-boxes, which are simply long and wide wooden troughs. The pebbles and boulders are removed, and the gold is brought in contact with mercury in these sluice-boxes, and is then caught, and collected while the stream of mud flows away.

From this brief sketch you will see that an engineer in such a mine has a very different task to that of the coal miner, and he has neither winding, pumping, nor haulage to consider. Working under the glorious blue sky of the Californian foothills, he is troubled as little with difficulties of ventilation as he is with propping his roof. On the other hand, he has to face a series of problems of which his coal mining brother engineers know nothing; the difficulties of bringing water into a hydraulic mine often tax all his resources to the utmost, and the problem of dealing successfully with the mass of débris produced, is so difficult that it seemed insoluble, and this form of mining was threatened with extinction. It is, indeed, only quite recently that it seems to have been partially overcome.

Let us take a third form of mining—namely, tin mining, as practised in Cornwall to-day. Here veins running more or less vertical, but always most irregular, have to be followed down to great depths, both the veins and the rocks which they pass through being extremely hard. The conditions which prevail are thus very different from what we see in a coal mine, the engineer's attention being directed now, not to his roof, but to

his walls, which he has to keep well supported, whilst the method of exploitation is entirely changed. A few photographs, which I will show, of Cornish tin mines, and of the stopes in which the veinstuff is being got, will serve to emphasise these main differences in the mode of working.

Further, however, after the tin-bearing vein matter, which may contain one or two per cent. of tin, has been brought up to the surface, it has still to undergo a complicated series of operations. It has first to be picked over, and barren or worthless rock removed. The ore is then broken into small pieces, and fed into a stamp mill, where it is crushed into fine powder under the stamps, the pounded ore being carried out of the mortar-box of the stamp mill by a stream of water. The crushed ore then passes through various kinds of concentrating machines, so as to separate the tin-stone as completely as possible from the veinstuff in which it is encased, the entire series of operations being often far more complicated than those I have just described. Ultimately the dressed tin-stone is ready for sale, and it is not till then that the mining engineer has done with it, for mining properly includes the whole of the operations connected with the economic getting of mineral and preparing it for the market.

Here again are views illustrating the mining of the same material—namely, tin-stone, by the Chinese in the Malay Peninsula, where the mining consists in merely digging out the loose tin-bearing sands, which are afterwards submitted to a long series of washings in order to clean the ore. In marked contrast to these elaborate processes, it may be worth while to refer to such mining as that of gem mining in Burmah, Siam, or Ceylon. Here shallow pits are sunk down to the gem-bearing gravel, and the latter is excavated by the natives and washed in simple trays, as shewn in these photographs. The gem as soon as found is a marketable article, and needs no further preparation. I have now enumerated a series of different types of mining operations, each forming an important branch of the subject, and each the object of careful study for mining engineers. The engineers in charge of each of these various classes of mines obviously need knowledge of very widely different kinds, and it would seem, at first sight, as though their training could have but little in common.

In one sense, however, although the methods are so widely different, the objects of the mining engineer are in each case identical—namely, to win the maximum possible amount of valuable mineral from its deposit with the minimum of cost; and the man who does this most thoroughly is the best mining engineer. This brings me to a point that I particularly wish to emphasise, because it should form throughout the fundamental principle in the mining engineer's education. Mining is not a science, but an essentially practical art, carried on for purely economic purposes. Success in mining, therefore, must be judged in a purely financial aspect, and economy is the criterion by which the mining engineer must stand or fall. Unless a trained man can do his work more economically than an untrained one, his training is useless; of course, by economy I mean economy in ultimate results, and not an immediate apparent cheapness that may, and often, does prove very costly in the long run. Whilst mining is thus not a science, it is nevertheless an art that rests upon a basis of purely scientific principles, but it is the proper application of those principles that makes the mining engineer. A knowledge of the sciences upon which mining is based is obviously indispensable, but this knowledge by itself is not enough. The mining engineer must be able to apply these sciences, and in applying them he must forget, as far as possible, the study of science for its own sake, and must bear in mind only the practical results for which he is striving. As an example of what I mean, I may quote a case of an ultra-scientific gentleman who was put in charge of a gold mine, and who resorted to elaborate processes to get out the utmost particle of gold from the ore he was treating, overlooking the fact that it would have paid him far better to have let a little run to waste, because these last grains were costing him far more than they were worth. Similarly in coal mining it is, of course, good practice to get as large a proportion of coal out of a given area as possible, but a point may easily be reached when the cost of the timber that might have to be put in to get the last portions of coal would exceed the value of the coal got. In other words, due regard must be had to what the economist terms the "marginal increment." These are instances of what I mean by following too closely the principles of pure science to the neglect of commercial considerations.

(To be Continued.)

BRITISH GUIANA'S GOLD INDUSTRY.

THE gold entered on the 19th ultimo at the Custom House, Georgetown, for shipment per the R.M.S. *Essex*, which sailed that same afternoon, amounted to 5125 ounces 13 dwts. 18 grains, to the value of \$91,225.73, as compared with the previous shipment of 4223 ounces 15 dwts. 20 grains, to the value of \$74,762.44. With this addition the total output for the year amounts to 79,887 ounces 6 dwts. 21 grains, to the value of \$1,415,811.88. The following are the shippers and the amounts of their shipments:—

	Ozs. dwts. grs.	Total value.
The Colonial Bank...	1453 6 16	
Sproston D. and Fdy. Co...	313 19 7	
The B.G. Bank ...	3358 17 19	
Total...	5125 13 18	\$91,225.73

The following are the returns of gold entered at the office of the Department of Mines for the weeks ending—

	September 14.	September 21.	September 28.
	Ozs. dwts. grs.	Ozs. dwts. grs.	Ozs. dwts. grs.
Barima	126 8 14	162 10 15	12 8 12
Barima	884 11 2	1006 9 1	187 18 11
Cuyani	569 3 20	497 11 3	720 0 2
Esequibo	138 13 9	728 4 4	323 4 9
Groote Creek	30 2 3	—	14 17 6
Potaro	143 8 10	176 19 18	405 8 20
Paroni	169 9 5	55 15 15	140 5 14
Totals	2061 16 15	2627 10 8	1804 3 0

Output for September, 1895:—

	Ozs. dwts. grs.
Barima	419 8 1
Barima	2262 3 2
Cuyani	2043 18 23
Esequibo	2096 18 18
Groote Creek	64 3 9
Potaro	1971 12 23
Paroni	392 6 10
Total	9250 11 14

Export of gold from January 1 to September 30:—

	Ozs. dwts. grs.
1895	83,963 17 11 at \$1,488,354.67
1894	86,885 7 4 at 1,549,690.92

The RAND RHODESIA EXPLORING COMPANY (LIMITED) notify that warrants for the dividend of 10 per cent. for three months ending September 30 have been posted.

MINING IN CORNWALL AND DEVON: NOTES ON MINING IN THE WEST.

(FROM OUR SPECIAL CORRESPONDENT.)

THE success of the Camborne Mining School is a remarkable testimony to the ability of the staff of teachers, and its progress must be far greater than the most sanguine could have anticipated when the classes were first started by the pioneers in the Mining Association and Institute. This week they have for the third time within recent years extended their borders, and opened an addition to the building which has cost something like £2000. Some idea of the extent of the instruction carried on here will be gained from the fact that there are at the present moment 343 students in all the branches and that their fees alone for last year amounted to the respectable total of £1416. At the formal opening a number of prominent gentlemen took part, and it must have been a gratification to everyone to find that Captain Josiah Thomas's health has so far improved that he was able to take his old position as Chairman of the committee. The new portion of the building is mainly devoted to a new laboratory and a furnace room, probably the finest in the West of England, and a lecture hall, capable of seating 250, and conveniently arranged for the purpose for which it is intended.

In a time of universal depression, when mines which have paid dividends for years are either just managing to make both ends meet, or are actually showing a balance on the wrong side, it is highly encouraging to hear of a body of adventurers who have had a long uphill fight, being at last within measurable distance of a substantial reward for their patience and pluck. Wheal Basset appears to have finally come to the turning in the long lane which she has been traversing, for it is announced that at the next meeting a profit of between £2000 and £3000 will be shown. No success was ever more thoroughly deserved. If all Cornish mines had been worked with as much intelligence, enterprise, and forethought as have been displayed at Wheal Basset the condition of the industry would almost certainly be better than it is at present. Still true to their prudent policy, the committee will not, we are informed, recommend the declaration of a dividend, though the shareholders might be excused for thinking themselves entitled to this tardy return for the loyalty with which they have supported the executive. In view, however, of the pending amalgamation with South Frances, the course hinted at would seem to be the most prudent. No Cornish mine has better prospects at the present time than Basset, and we are glad to know that Mr. Oates, Mr. Trembath, and others, who have never lost their belief in the concern when its prospects seemed darkest, seem likely to have their faith so abundantly justified. In this connection the increased returns from South Frances are also full of encouragement.

WHEAL GRENVILLE is, perhaps, on the whole, the most prosperous mine in Cornwall just now, and the prospects are said to have distinctly improved during the quarter. A dividend will probably be declared at the forthcoming meeting.

WHEAL AGAR engine is working again, but the exact nature of the arrangement under which it has been started is more or less shrouded in mystery. The negotiations for a settlement of the points at issue between this mine and East Pool have been unduly protracted, and afford an awful example of "how not to do it." However, there is little doubt that a *modus vivendi* will very shortly be arrived at.

CARN BREA and Tincroft meetings will be held in the course of the next fortnight, and the shareholders in the former mine will be called upon to meet another considerable deficiency. A slight improvement is reported from Trestrail's shaft, where some good stones of tin have been met with.

DOLCOATH is looking exceedingly well. The ground in the bottom of the mine has recently improved, and the shareholders may look forward to hearing some very cheerful information at the statutory meeting. Captain Josiah Thomas's health is now almost completely restored.

WEST FRANCES meeting was held on Thursday, and the loss of £1184 necessitated a call of 5s. a share. Captain Josiah Thomas, the manager, was present, and was heartily congratulated by the shareholders on his return and restoration to health. There does not seem to be any particular point of interest in the mine, but now that the shareholders have decided to resume the driving of the 154 by boring machine, it will be watched closely. This end is going into entirely unexplored ground, and in this district, which is proverbially bumpy, there is always the chance of cutting something rich. They have also the probability of some good pipes of tin coming up from South Frances, so that the immediate prospects are good. The costs are not heavy, so that any discovery would be readily felt in the accounts.

NIEKERK (KLERKSDORP) GOLD MINING COMPANY (LIMITED).—The first ordinary general meeting of this company was held on Monday, at the Cannon-street Hotel.—The Hon. Howard Spenser, who presided, said the company was established some three or four months before. The whole of the purchase price was paid to the vendor in shares. The company had to provide only the working capital to carry on the operations. The property was situated in the Klerkspoor district, and consisted of about 100 English acres. The company was bankrupt, exactly the same as that of the Witwatersrand. The company possessed exceptional facilities for cheap working, having timber, water, and all the necessary requirements for the conduct of a mining company. They had succeeded in obtaining all the necessary capital for conducting the mining arrangements in connection with the company. They had also appointed Mr. Joseph Hassell as mining manager, with respect to whom they had received the highest recommendations, and believed that he was the right man in the right place. At the present moment he was at the mine, directing the various operations there. On October 4 they received information by telegram that the whole of the property had been transferred into the name of the company. He trusted that at the next meeting, which would be held a few months hence, they would be in a position to pay a substantial dividend.

—We are officially informed that the TRANSVAAL EXPLORING COMPANY (LIMITED) have been put to considerable inconvenience by the delay on the part of stockbrokers in collecting the share certificates which were ready for delivery on the 2nd ultimo and subsequent dates.

—The registered offices of the MINER'S DREAM GOLD MINES (LIMITED), the MOUNT TORRENS GOLD MINING COMPANY (LIMITED), the CONSUELO GOLD MINES (LIMITED), the BRITISH EXPLORING COMPANY (LIMITED), the EXPLORING AND DEVELOPMENT SYNDICATE (LIMITED), and the NIGER MAIN RIVER (LIMITED) have been removed to Bishopsgate House, Bishopsgate-street Within, E.C.

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

Brilliant and St. George United Gold Mining Company.

The following is the directors' half-yearly report to the shareholders, dated Charters Towers, August 20, 1895.—"We beg to present for your information a report of the company's affairs and progress at the mine during the past six months, together with duly audited statement of accounts and balance-sheet. The mining operations have been pushed on systematically, and the following development works accomplished:—The underlie shaft has been sunk a further depth of 125 feet. With the exception of about 30 feet of black country, the shaft carried a fair-sized reef, and 4 feet of stone of good quality is now exposed in the sink, which is down 85 feet below No. 5 levels. No. 5 levels were opened and advanced 57 feet east and 89 feet west, carrying from 2 to 10 feet of good stone. No. 4 levels, east and west, have been advanced respectively 200 and 67 feet, and are now 275 and 132 feet from the shaft, and both near the boundaries of the lease. This block contains a large quantity of good stone to extract. No. 3 level has been extended 90 feet, making total from the shaft 16 feet, which is near the Pheebo boundary. In addition to these levels, winzes have been sunk, in the aggregate 324 feet, and a rise of 48 feet put up. As mentioned in last half-yearly report, the connection of the underlie with the vertical shaft, to do away with the double-haulage system, has been taken in hand and completed for a distance of 100 feet, beginning at the opening in the vertical shaft with a height of 18 feet, to make ample room for the curve, and brought down to 12 feet by 12 feet. A Worthington pump has been ordered (but not yet received), capable of lifting the water from the underlie to the surface in one lift, 1200 feet, which will be a great advantage in the drainage of your mine. When the pump is placed in position it is intended to lay heavy rails for a double roadway down the underlie. Thirty tons of rails have been specially procured for this purpose, and are paid for. We anticipate that the new system of haulage will be inaugurated in about three months' time. The quantity of stone extracted during the period under review was 8979 tons, which yielded 14,522 ounces 1 dwt. 7 grains of gold, valued at (inclusive of charges disposed of) £50,452 1s. 6d., the average per ton being 1 ounce 12 dwt. 8 grains, and the value of the gold per ounce, £3 9s. 6d. nearly. As compared with the previous half-year, the output of stone increased by 1663 tons, but only 556 ounces 3 dwt. 7 grains more gold was obtained for the additional quantity. The whole expenditure, inclusive of additions to plant, and progressive works, and all other charges (except dividends and dividend tax), amounts to under £1 19s. per ton, and the value per ton of ore raised was £5 12s. 4d., thus showing a profit of £3 13s. 4d. per ton; the total profit being £32,928, in addition to the sum of £1021 carried forward from the previous term. Of this amount, dividends and dividend tax absorbed £24,570. £2000 has been placed on fixed deposit with our bankers as a reserve-fund, and £7379 17s. 10d. carried forward at current credit. This sum has been kept in hand to pay the cost of the improvements above mentioned, and to ensure the payment of the usual dividend during the stoppage of the output, which will unavoidably occur whilst they are being effected. We think the shareholders may be congratulated on the excellent position of the finances, and the prospects generally. The dividends paid to date amount to £76,800, or £4800 more than the nominal capital of the company, and the value of the property at present market quotations is equal to £288,000. This means, practically, that the developments of the past six months have increased the value of the property by nearly £100,000, in addition to the distribution of dividends amounting to £23,400. We have considered the question of opening a London register, and do not think it advisable, but leave the matter entirely in the hands of the shareholders to decide. Your directors and auditors now retire from office, but are all eligible for re-election."

Moodie's Fortuna Gold Mining Company.

The London committee send the following copy of a circular they have received from the Johannesburg board:—"A special general meeting of the shareholders of the above company will be held at the board room, Bettelheim Buildings, Johannesburg, on October 23, for the purpose of confirming, or otherwise, certain provisional agreements entered into by the directors of the company with others, for the acquisition of certain ground adjoining to the company's property, in extent about 42 claims, more or less, £15,000 cash, and other assets, for 75,000 fully paid-up shares of £1 each in this company, to be created as hereinafter mentioned. Thereafter to increase the capital of the company to £150,000, by the creation of 90,000 new shares of the nominal value of £1 sterling each, 75,000 to be applied as above, and 15,000 to be added to the 10,000 shares now held in reserve, such reserve shares to be held as provided in clause 6 of the Articles of Association. Should the agreements be confirmed, the shareholders will be asked to pass resolutions authorising the directors to do all such acts, matters, and things necessary for the final completion and carrying into effect of the several purchases recited in the agreements; to frame, sign, and register supplementary Articles of Association. Copies of the agreements lie for the inspection of shareholders at the office of the company, Bettelheim Buildings. The transfer register of the company will be closed from the 4th to the 23rd October, both days inclusive. P.S.—From advices to hand, it is expected the mill will be at work about the end of the present month."

Consolidated Gold Fields of South Africa (Limited). Subject to audit, the balance to credit of profit and loss is £2,534,498 0s. 8d., and after deducting debenture interest, managing directors' percentage, and all outgoings, there remains a net balance to credit for the year ending June 30, 1895, of £2,51,779 17s. 10d. Out of this amount interest on the preference shares and an interim dividend of 5s. per share on the ordinary shares has been paid, leaving, with the balance of £21,463 18s. 8d. brought forward from the previous year, £1,970,746 4s. 10d. still available. The directors recommend that a dividend of 20s. per share be declared, free of income-tax, making with the interim dividend 25s. per share for the year, and that £200,000 be added to the reserve fund, leaving a balance of £1,145,746 4s. 10d. to be carried forward to the credit of the current year. The ordinary share transfer-books will be closed from Monday, October 28, to Saturday, November 9, both days inclusive.

Crown Reef.

A dividend of 50 per cent. (being at the rate of 100 per cent. per annum) has been declared by the board, for the half-year ending September 30, payable to shareholders registered on the books of the company at the close of business at 4 p.m. on Tuesday, November 12, also to holders of coupons No. 8 attached

to share warrants to bearer. The dividend warrants will be dispatched to London from the company's head office, Johannesburg, about December 23. The transfer registers will be closed from the 13th to 19th November, both days inclusive.

Hampton Gold Fields (Limited).

This company have exercised their option of purchase from the Hampton Plains Estate (Limited) of Block 42 of that company's property, and have formed a sub-company, called Block 42 Hampton Plains (Limited), and we are informed that the required capital has been very largely over-applied for. Block 42 comprises 13,452 acres of freehold land, and a cable has been received as follows:—"We have found reef Block 42, good gold.—Price."

Block 42 Hampton Plains (Limited).

We are informed that this company has been privately floated by Hampton Gold Fields (Limited), and that letters of allotment have been posted. The capital was largely over-subscribed.

The Mines Contract Company.

The board, after careful consideration, have decided to postpone the annual general meeting for a short time in order that the final result of certain business pending may be laid before the shareholders. The directors have during the past year disposed of some of the company's property to advantage, and the business of the company generally has been successful. An interim dividend of 10 per cent. has been declared.

On and after Monday, the 21st inst., the offices of the AGENT-GENERAL FOR SOUTH AUSTRALIA will be at No. 1, Crosby-square, Bishopsgate-street, Within, E.C., where all business will be conducted, including the reception and examination of coupons of the South Australian Government bonds.

The directors of the RAND RHODESIA EXPLORING COMPANY (LIMITED) have declared an ad interim dividend of 10 per cent. for the quarter ending September 30 last, to all shareholders registered on the 10th inst. The books of the company will be closed from the 10th inst. to the 17th inst., both days inclusive.

The last batch of letters of allotment and regret in the BROWNHILL PROPRIETARY GOLD MINES (LIMITED) have been posted.

The registered offices of the GROOTFONTEIN EXPLORATION COMPANY (LIMITED), the LYDENBURG (TRANSVAAL) GOLD EXPLORATION COMPANY (LIMITED), and the WESTRALIAN PREMIER GOLD MINES (LIMITED), have been removed to Suffolk House, Cannon-street, London, E.C.

Should the special resolution to wind up the HAMPTON LANDS AND RAILWAY SYNDICATE (LIMITED) voluntarily, which was passed on the 8th inst., be confirmed at the forthcoming extraordinary general meeting, to be held on the 30th inst., the transfer register for the registration of shares will be finally closed at 4 o'clock on that day.

The first batch of allotment letters in the GOLD FIELDS OF DAMARALAND EXPLORATION COMPANY (LIMITED) have been posted.

The share transfer-books of the SAN PABLO NITRATE COMPANY (LIMITED) will be closed from the 24th inst. to November 2 inclusive, for the purpose of paying a dividend on the 29th inst. of 5 per cent. out of the profits for the year ending June 30 last, declared subject to confirmation at the general meeting to be held on October 28.

The gold produced for the month of August by the OURO PRETO GOLD MINES OF BRAZIL (LIMITED) has been sold for £5208 11s. 2d.

The AFRICAN GOLD RECOVERY COMPANY (LIMITED) announces that 57,000 ounces of gold have been recovered at the Rand, and 7000 ounces in other districts, total 64,000 ounces during September, by means of their MacArthur-Forrest cyanide process. The August total was 68,100 ounces.

At a meeting of the directors of the WEST AUSTRALIAN VENTURE SYNDICATE (LIMITED), held at the offices, 79, Queen-street, E.C., it was resolved to pay an interim dividend of 15s. per share, being 100 per cent. on the paid-up capital, out of the profits resulting from the operations of the company since its establishment in February last.

Letters of allotment to applicants for shares in the MOUNT MAGNET GOLD MINING COMPANY (LIMITED) have been posted.

The JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY (LIMITED) announce that dividend warrants for the dividend of 20 per cent. will be posted on Monday, October 21.

AMERICAN MINING RETURNS FOR SEPTEMBER.

The following are the returns for September from mines whose shares are dealt in on the London market, and the outputs for the four preceding months are also given:—

Mine.	Mar.	June	July	Aug.	Sept.
Alaska Mexican.	\$17,773	\$17,503	\$17,879	—	
Alaska Treadwell	\$71,439	\$87,697	\$93,144	\$83,587	\$80,250
Caratul	—	—	—	299	—
Cayloma	—	—	—	10,750 oz	22,250*
Cent. Chili Cop.	—	—	—	—	298 tons
Chiapas Silver	—	—	—	—	185
Co'ombian Hy.	£2,050	—	—	—	
De Lamar	\$78,355	\$78,715	\$79,555	\$81,231	\$76,865
Don Pedro	86 oz	126 oz	—	—	
El Cat. (and Col.)	2,325 oz	2,825 oz	2,225 oz	—	167 oz
Elkhorn	\$27,257	\$26,803	\$29,026	\$28,032	\$26,224
Gravel	£500	—	—	—	
Ha'quahala	—	\$10,900	\$16,650	—	—
Macate	£210	—	£160	—	—
Mesquital del Oro	—	725 oz	3,102 oz	1,391 oz	905 oz
Montana	\$75,400	\$64,200	\$68,400	\$64,300	\$57,900
New Gaston	\$31,440	\$26,370	\$26,500	—	—
Orita	£500	—	—	—	
Ouro Preto	1,534 oz	1,536 oz	1,455 oz	1,400 oz	1,536 oz
Pinos Altos	\$55,000	\$55,000	\$55,750	—	—
Pumas Eureka	£2,158	£1,956	£1,986	—	—
St. John del Rey	3,458 oz	3,516 oz	3,573 oz	3,400 oz	2,882 oz
Siera Buttes	£1,622	£1,470	£1,539	—	
Silver King	—	—	21,000 oz	22,000 oz	—
Tu. Lake Placers	—	—	—	£7,150	—

* In ozes and bullion.

Many of the companies do not publish the working profits, but the figures which are available are:—

Mine.	May	June	July	Aug.	Sept.
Alaska Mexican.	\$72,248	\$7,003	\$7,301	—	—
Alaska Treadwell	\$49,016	\$65,663	—	—	—
Cent. Chili Cop.	—	£1,250	—	£8,074	—
Colombian Hy.	£8,341	£8,074	£8,089	£8,074	£7,709
De Lamar	£994	£1,001	£1,349	£1,360	£1,394
Frontino	£2,324	£481	—	£880	—
Harquahala	—	£2,112	—	—	
Montana	\$14,100	\$14,000	\$15,200	\$14,800	\$14,900
New Gaston	\$18,140	\$10,223	\$10,550	—	—
Orta	£200	—	—	—	—
Pinos Altos	\$13,000	\$13,465	\$11,700	—	—
Pumas Eureka	£570	£492	£378	—	—
Siera Buttes	£418	£279	£324	—	—
Tolima	—	£2,000	—	£400	—
Western Andes	—	£280	—	£400	—

INDIAN MINES' OUTPUT FOR SEPTEMBER.

DURING last month the output of the producing mines in Mysore, India, was 21,502 ounces, showing an increase of 798 ounces as compared with the preceding month, and an increase of 2,591 ounces as compared with the corresponding month of 1894. The production since the beginning of 1894 has been as follows:—

1891.	1892.	1893.	1894.	1895.
Oz.	Oz.	Oz.	Oz.	Oz.
January ...	10,186	11,674	16,844	17,026
February ...	10,121	11,780	16,656	15,803
March ...	10,117	11,579	17,463	20,257
April ...	9,392	11,813	18,287	20,339
May ...	10,509	12,484	17,922	16,513
June ...	10,746	11,847	16,879	15,459
July ...	11,097	13,277	16,676	19,271
Aug.-t.	11,222	14,854	16,692	19,073
September ...	11,396	15,523	17,060	18,911
October ...	12,095	15,922	17,440	19,119
November ...	11,667	15,912	17,557	18,825
December ...	11,559	16,435	17,659	19,068

Total ... 130,137 ... 163,140 ... 207,133 ... 209,729 ... 182,145

The outputs of the individual mines for the past six months have been:—

Apr.	May.	June.	July.	Aug.	Sept.

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C. PASS & SON (Limited), BRISTOL,
ARE BUYERS OF
LEAD ASHES, SULPHATE OF LEAD, LEAD SLAGS,
ANTIMONIAL LEAD, COPPER MATTE, TIN ASHES, &c.
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TIN, COPPER, LEAD, AND ANTIMONY.

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Sampled, and Warrants issued against same.
N.B.—Warrants are on Accepted List of London Metal Exchange.
Regular lines of steamers from America, Europe, &c.
Consign goods to Lambert's Cranes, Prince of Wales Dock, Swansea

GOLD MINING SHARES.

THE GOLD FIELDS OF CRIPPLE CREEK IN THE STATE OF COLORADO, U.S.A.

The DEVELOPMENT of this extensive GOLD DISTRICT is just completing its THIRD YEAR, and is, therefore, in its infancy. The production is about \$1,000,000 a month, and is RAPIDLY INCREASING.

Many of these Gold Mines are already paying handsome Monthly Dividends to Stockholders, and others give promise of doing so in the immediate future. These stocks are to-day the most promising gold mining investments in the World.

The undersigned publish a weekly market report, and a pamphlet, giving general information on this subject. These publications will be sent upon request.

**WILLIAM P. BONBRIGHT and CO.,
Bankers and Brokers,**

COLORADO SPRINGS, COLORADO, U.S.A.

TELEGRAPHIC ADDRESS: "BONBRIGHT, COLORADO SPRINGS."

COMPANIES AND LEGAL ANNOUNCEMENTS.

Advertisements are inserted in this column at the rate of 9d. per line with a minimum charge of 7s. 6d.

RIO TINTO COMPANY (LIMITED).

NOTICE IS HEREBY GIVEN that the Share Transfer Books of the Company will be CLOSED from Thursday, the 24th to Thursday, the 31st October, both days inclusive, for the preparation of the Interim Dividend which will be paid on the 1st November, 1895.

Holders of Share Warrants to Bearer are informed that they will receive payment of the said Interim Dividend at the rate of 10s. per share, free of Income Tax, on and after Friday, the 1st November, 1895, on presentation of Compon No. 34, either at the Company's Office in London, or at the Société Générale, Rue de Provence, 56, Paris, or at the Deutsche Nationalbank in Bremen.

Coupons for payment in London must be left four clear days previously for examination, and may be deposited forthwith.

By Order,
GEO. N. THOMPSON,
Secretary.

Offices of the Company,
30, St. Swithin's Lane,
October 14, 1895.

THE CHAMPION REEF GOLD MINING COMPANY OF INDIA (LIMITED).

Re Issue of 20,000 Ordinary Shares of £1 each, as authorised by Resolution passed at an Extraordinary General Meeting held on the 15th October, 1895.

NOTICE IS HEREBY GIVEN, that the TRANSFER BOOKS of this company will be CLOSED during THURSDAY, the 17th October instant.

JOHN GARLAND,
Secretary.

6 and 7, Queen Street Place,
London, E.C.
15th October, 1895.

THE SCOTTISH AUSTRALIAN MINING COMPANY (LIMITED).

NOTICE IS HEREBY GIVEN, that the HALF-YEARLY
GENERAL MEETING of the Shareholders of the Scottish
Australian Mining Company (Limited) will be held at Winchester
House, Old Broad Street, London, on FRIDAY, the 25th of October,
1895, at Twelve o'clock at noon precisely, to receive the Directors'
Report and Accounts, and transact the other usual business of the
Company.

By order of the Directors,
F. W. TURNER,
Secretary.

Winchester House,
Old Broad Street, London,
15th October, 1895.

THE IRON AND COAL TRADES' REVIEW

With which is Incorporated

The Bulletin of the British Iron Trade Association.

The IRON AND COAL TRADES' REVIEW is extensively circulated amongst the Iron Producers, Manufacturers, and Consumers, Coal Owners, &c., in all the Iron and Coal Districts. It is, therefore, one of the Leading Organs for Advertising every description of Iron Manufactures, Machinery, New Inventions, and all matters relating to the Iron, Coal, Hardware, Engineering, and Metal Trades in general.

Offices of the Review: 222-225, Strand, W.C.
Remittances payable to W. Sitaw.

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE.

An Illustrated Record of Mining, Metallurgical, Railway,
Financial, Industrial, and Engineering Progress.

ESTABLISHED IN 1835.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, published every SATURDAY MORNING, price SIXPENCE, is recognised throughout the World as being the oldest, most influential, and most widely circulated Journal devoted to the interests which it represents. It circulates

ALL OVER THE WORLD.

Amongst Mine Owners, Capitalists, Investors, Mining, Metallurgical, Railway and Mechanical Engineers, Railway Administrators, Manufacturers, &c., &c.

THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE has correspondents and sources of information in almost every quarter of the globe. Its policy is absolutely independent; its circulation is cosmopolitan; and its literary scope embraces the entire field indicated by its title.

THE MINING JOURNAL is neither controlled, nor is any interest in it held or exercised, by any mine owner, speculator, or syndicate; and it is in no way connected with any share-dealing agency.

TO CORRESPONDENTS.—Letters on Editorial Matters, or containing literary contributions should be addressed to "THE EDITOR." All matter intended for insertion must be written on one side of the paper only. The return of rejected manuscripts cannot be guaranteed. The Editor invites correspondence and items of news or information from readers in all parts of the World.

TO SUBSCRIBERS.—The Annual Subscription to THE MINING JOURNAL, including postage, is for:—

The United Kingdom, £1 4s.

Abroad, £1 8s.

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TO ADVERTISERS.—The following is an abbreviated Scale of Charges for Advertising:—Companies' Prospectuses, £1 12s. per column, or £20 per page; Companies' or Legal Announcements, 9d. per line, with Minimum charge of 7s. 6d.; Sales by Auction, Publications, For Sale, Wanted, &c., &c., 9d. per line with a Minimum charge of 4s.

Displayed (Trade) Advertisements of 2 inches in depth (or more), Single Column measure, will be inserted at the following rates:—For 52 insertions 2s. 6d. per insertion for each inch in depth; for 28 insertions 3s. per insertion for each inch in depth; for 13 insertions 3s. 6d. per insertion for each inch in depth. Terms for special positions and contracts may be had on application.

* ADVERTISEMENTS (which should in all cases be sent direct to

THE BUSINESS MANAGER can now be received for the forthcoming issue of THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, on FRIDAY, at 18, FINCH LANE, E.C., up till 6 p.m., and at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.O. until 9 p.m.

Editorial and Advertisement Offices:

18, FINCH LANE, LONDON, E.C.

Telegraphic and Cablegraphic Address: "TUTWORK, LONDON."

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LONDON: OCTOBER 19, 1895.

THE GOLD MINES OF THE RAND.

THE above is the title of a book, written conjointly by Messrs. F. H. HATCH and J. A. CHALMERS, and published by Messrs. MACMILLAN and Co. It has made a timely appearance, and, in consequence, has attracted a great deal of attention. During the last week or so everyone has been speaking about it, and endeavouring to obtain a copy of it. The importance of the book does not call for an ordinary review, but is deserving of editorial prominence. We do not propose, however, to criticise it in detail. As a matter of fact, it is beyond criticism. We simply wish to extract from it some of the more important questions which at the present time are agitating the public mind. It is a significant coincidence that it should make its appearance simultaneously with the publication of the article in the *Nineteenth Century* from the pen of Mr. S. F. VAN OSS, upon which we commented last week, with a promise to further deal with other questions raised in it by the author. The future of South Africa is dependent upon Deep Levels, which have assumed an importance which only a few years ago was undreamt of. In connection with these, there are three vital questions to be answered, and these are admirably summed up by the authors in their work as follows:—(1) At what depth will the Main reef series be found at any given distance from the outcrop? (2) To

what extent do the reefs maintain their gold contents in depth?

(3) What is the limit in depth to which profitable mining can be carried? Mr. VAN OSS, in his article, truly remarks that the possibility to work the reefs at greater depth than at present worked, and whether they continue lengthwise underground beyond the present known limit, are at Johannesburg the questions of the hour. Up to what depth and to what angle do the reefs continue, and how far down can they be worked? Answering this question, Mr. VAN OSS remarks, it seems certain that the reefs can be worked at a much greater depth than was formerly supposed, and all but certain they will be found to continue regularly at a depth of at least 2000 feet as they do at 200, and hence the Deep Level companies who have purchased large tracts of ground "behind" the outcrop companies have fair prospects, and may turn out grand properties even, for if the reefs should run down obliquely to a depth of, and be workable at, 4000 or 5000 feet, these Deep Level companies will reap splendid profits, despite the increase of working expenses when developing, and the necessity of a larger working capital by reason of the outlay for deep shafts; but, he significantly remarks, if there is a possibility, there is no certainty. This last sentence has been taken by superficial critics as an expression of pessimism. It is nothing of the kind; it is simply an expression of the truth. Even Messrs. HATCH and CHALMERS, who are certainly not pessimists, do not undertake to answer this question. They observe that the first question at first sight appears to be one of comparative simplicity. It is not so, however. "We know that the whole formation of the Rand dips to the south. We have, therefore, merely to take the angle of slope of the reef plain, and we can calculate the exact depth at which it will be intersected by a vertical shaft put down at any given point on the dip. Experience has shown, however, that the problem is not quite so simple as this." This is in consequence of the angle of dip varying considerably in different mines, though the general conclusion is that the reefs do tend to flatten as they go down. It is very important in the present state of knowledge to state whether the flattening will continue to still greater depths. The average angle of dip in the lowest workings of the mines at the present time is probably about 30°, but assuming, as is more probably the case, that a still further flattening (say) to 25° takes place, the authors argue that at from 5000 feet from the outcrop the vertical depth will be only 2800 feet; at 8000 feet it will be a little more than 4000, and at 15,000, or about 3 miles from the outcrop, it will be 7000 feet. No doubt it will be in the recollection of our readers that in his letter to *The Times* of February last, Mr. HAMILTON SMITH gave it as his general conclusion that at a horizontal distance of 3 miles from the outcrop the reefs are, probably, 10,000 feet, or about 2 miles beneath the surface, and at a distance of 2 miles their depth, as a rule, will not be quite 1½ miles. Messrs. HATCH and CHALMERS, however, submit that the facts already known justify an opinion more favourable to the future of the industry. In this they have the support of the celebrated expert, Mr. JOHN HAYS HAMMOND. The second question raised by the authors is even more problematical, and, naturally, they are unable to answer it conclusively. Nevertheless, what they are able to say is sufficient to allay the fears of the investor, and to cause him to repose hope and confidence in the future of the industry in which he has embarked so much of his capital. The deepest workings of the outcrop mines have proved the values of the reefs to a distance of 800 to 900 feet on the slope of the reef, and although this distance is very small compared to the greatest depth to which the reefs will, probably, be worked in the future, it is satisfactory to learn that, in regard to the aggregate ore value, there is no falling-off in the grade. It is true that there are local fluctuations; but if this seems to indicate a diminished ore value in one mine in another it does not, so that, on the whole, the average remains unchanged. Again, it is a common experience for one level to develop a poorer ore than the average of the mine, but the next level below, in the majority of cases, restores the balance to often improved quality. The third question, namely, to what limit in depth profitable mining can be carried, is one which is naturally dealt with at considerable length. In answering this question there are several minor points to be taken into consideration, and to be satisfactorily dealt with before we can give a reliable reply to the question as a whole. The limiting factors are, as laid down in the book (1) increased temperature (2) excessive initial expenditure for equipment and development; (3) increase of working costs. It is extremely gratifying to us personally to note that the arguments upon which the authors base an affirmative answer are, in the main, similar to those which in May last we discussed editorially in the columns of *The Mining Journal*, and which led us to form an opinion exactly similar to that of the authors of this valuable work, and to that held also by Mr. HAMMOND himself. Dealing with the first factor, the authors say the well-known fact that there is an increase in temperature proportionate to depth attained, is generally considered the main factor in the case limiting the depth at which it will pay to mine. In spite, however, of the importance of the question, few experiments have been made to accurately test the exact rate of increase. Mr. HAMILTON SMITH is, perhaps, the only leading expert who has gone to considerable trouble in this; but even the experiments made by him are not altogether reliable. According to the latter, they show a temperature of 67.2° Fahr. at a depth of 200 feet, increasing in a regular manner to 95.3° at a depth of 2494 feet, which indicates a temperature of 100° at a depth of 3000 feet. These results indicate an increase of 1° for every 82 feet. Mr. SMITH himself, however, has since written to *The Times*, stating that the rise in temperature is not so great as this, and that it agrees with the statements published by us in May last—that the increase shown is at the rate of 1° Fahr. for every 65 to 75 feet. We have no reason, therefore, to alter our conviction that any objections to Deep Level mines that may be suggested on the score of atmospheric

pressure may at once be dismissed as illusionary. It may also safely be assumed that before we reach any considerable depth, such as 5000 feet or more, we shall be probably acquainted with inventions that will to a greater extent reduce the temperature. Already the adoption of the electric light and the more extended use of machine drills operated by compressed air have done a great deal towards this desirable end. Summing up the question, the authors say: "The information we have at our command is altogether too fragmentary at present to permit of a final opinion being given as to the possible interference of mining at deeper levels on the Rand, but we fail to see the slightest cause for uneasiness on this score, the evidence indicating that these fields are as well off in this respect as the most favourably situated district in any other part of the world." The second factor, from an investor's point of view, is the most important and most serious, and with this aspect of the question we have dealt at considerable length. The greater the depth attained the greater will be the capital expended, and the greater the probable decrease in profits and dividends to be derived from the mining operations.

In a letter which Mr. JOHN HAYS HAMMOND writes to the authors, and which occupies a considerable portion of the preface, this celebrated expert discusses at considerable length the difficulties of working to a great depth, and it is still further gratifying to note that his conclusions are exactly similar to our own. Our opinion we expressed as follows, in May last:—"It seems fair enough to hazard the opinion that, working at a depth of 5000 feet, the cost of delivering ore at the surface should not exceed that of similarly getting it from shallow mines by more than 3s. or 4s. At the present time the cost of mining proper on the Rand averages about 13s. per ton, and it is reasonable to hope that these items in a mine 5000 feet deep would not altogether exceed a total cost of about £1 per ton, and no one acquainted with the Rand would consider this at all a prohibitive figure. The great point that needs to be emphasised is that working on the Rand at a depth of 5000 feet is not only possible, but has every probability of being profitable, provided that ample capital is furnished at the outset, and that a sufficiently large block of ground is secured. Nowhere do we see any obstacles of insuperable magnitude, and we cannot doubt that the energy and enterprise of the men who have created the thriving town of Johannesburg will be equal to continuing the development of the wonderful gold deposits to depths that our old-world engineers hitherto looked upon as prohibitive, and that greater advances in gold mining than we have foreshadowed here will be realised." This is what Mr. HAMMOND says:—"The problem is one of great importance, not only to the Transvaal, but to the world in general; for on its successful solution depends the gain to the world of an enormous gold output, as appears if we accept the conservative estimate of £20,000 as the yield in gold per claim. Upon this basis it will be seen that every 1000 feet of vertical length, assuming the reef to be 30° in its dip, would open up ore from which £200,000 of gold would be obtained for every 150 feet, the length of one claim along the course of reef. Every mile of ground parallel to the course of the reefs would, therefore, yield per 1000 feet of vertical depth the sum of about £9,000,000. The problem presented, then, is to how many thousand feet in depth can mining operations be carried in the Witwatersrand mining district? From an engineering point of view, mining operations are certainly practicable to a vertical depth of at least 5000 feet. There is no necessity for abstract reasoning upon this point, as the practicability of mining to these depths has been demonstrated in other countries. But, regarded from a financial point of view, will mining to this depth pay? The initial expense, as compared with that of mining upon the outcrop companies, will undoubtedly be considerably greater on account of the increased cost of the heavier plant required, and the shaft sinking involved; therefore, it will be necessary, in order to ensure profitable mining upon such Deep Level properties, that larger areas be embraced in one company so as to minimise the capital expenditure per claim worked. If we work, for example, by means of Deep Level plants blocks of 250 claims to the depth of 5000 feet, the extra cost per claim, as compared with the cost of the plants to work the outcrop companies, will not be more than £1500 per claim—surely not a prohibitive expenditure, if we bear in mind the fact that the profits per claim upon the central section are estimated at upwards of £18,000. As a matter of fact, the capital expenditure through faulty engineering in the case of the outcrop companies has been considerably greater than the estimate I have allowed in this comparison of the relative costs of mining the outcrop and Deep Level companies respectively. The cost of mining would likewise undoubtedly increase compared with that of the most economically-managed of the outcrop companies; but, in my judgment, these increased expenses would not, even under present economic conditions, greatly exceed those of the average mining costs of the outcrop companies. The increased cost would be due chiefly to the larger expenses attending hauling, pumping, and ventilation, but even under present conditions as to cost of labour and supplies, the extra cost of Deep Level mining to a depth of 5000 feet should not exceed 5s. per ton, and this is obviously not an insuperable obstacle to profitable mining. In my opinion, there will be even less disparity of cost than this, owing to improved economies that would be effected by conducting the operations upon a larger scale than customary by obtaining cheaper, or in any event what is equivalent, more efficient labour, both white and black, and by cheaper supplies. Therefore, looking to the time when Deep Level mining will be carried on extensively, we may reasonably predict such betterment of the economic conditions as to admit the mining of ore at the same working costs per ton as now obtain in the outcrop companies. The successful working of these Deep Level areas presupposes the persistency of the conditions of the banket formation as to the widths and gold contents of the reefs. That such conditions obtain is evidenced by the geological character of the formation, and confirmed by

the facts elicited through the actual workings upon the first row of Deep Level claims, also from the Deep Level bore holes. That poor zones are liable to be encountered, as in the case of the outcrop companies, is admitted; but, from a mining point of view, there can be little doubt that the reefs in the second row of Deep Levels will be equally good, both as to regularity in size and good values, as those developed upon the first row. Between the first row of Deep Level properties and the 5000 feet vertical depth, at least, I regard mining practicable, there lies a valuable auriferous area, which, within a few years, will be the scene of profitable mining operations."

The book before us, from the first page to the last, is full of matter of great interest and moment, and we should be only too pleased if space would permit us to quote from it at greater length. As, however, we cannot do this, we can cordially recommend it to all who are desirous of gaining a complete knowledge of mining in South Africa, and we doubt not that it is destined to have a very large sale. We have already quoted sufficiently to show that in the opinion of these authors, who certainly know what they are talking about, and in the opinion of so great and reliable an expert as Mr. HAYS HAMMOND, the gold mining industry of the Rand is built upon a foundation which cannot be shaken by mere phases of speculation. Shares may rise and fall, but the gold output will be undisturbed, regular, and consistent. Development will proceed as if speculation was never indulged in; and as it proceeds, more assured evidence will furnish us of its permanence and solidity. Before concluding this article, however, we must draw attention to further prophetic utterances in which the writers indulge. Mr. HAMMOND says, "that the output would be greatly increased for the year 1895, is, indeed, already assured; and it is equally certain that this year's output will place the Rand *facile princeps* of the gold mining countries of the world; but even here the progress will not halt, and it is safe to predict that there will be a progressive increment of the annual output for many years to come. It is obviously impossible to make an approximate estimate, but I would regard as well within the bounds of conservatism the prediction that the annual output before the end of the present century will exceed £20,000,000 sterling worth of gold." This is a bold prediction to make, but no one can deny that it is well founded, and is absolutely justified by available evidence and *data*. As regards the output, the Rand certainly comes first, but as regards value everyone knows that last year it took third place. The reason of this is not far to seek. The cyanide process is responsible for a considerable portion of the gold produced, but as this is of low value, it necessarily diminishes the worth of the metal. Messrs. HATCH and CHALMERS give facts and figures, upon which they base a calculation that at the beginning of the next century the annual output will reach a total of 6,500,000 ounces, having a value of (say) £26,000,000. Whether this prediction be fulfilled or not, the estimates upon which it is based are quite sufficient to dispel the scepticism of rivals and the pessimism of investors. We certainly shall have slumps from time to time, but these need no longer occasion the fears which, unfortunately and unwise, were created in the minds of *bond fide* investors during the past fortnight.

A NEW COLORADO VENTURE.

THE articles which we have of late published from the pen of our correspondent at Colorado, have, as we quite anticipated, attracted a great deal of attention. This is not so much by reason of the fact that information has been published which was unknown before, but rather as evidence of the signs of the times. Although South Africa and Western Australia are countries to which attention is being principally directed, nevertheless, investors, as well as speculators and technical experts, are looking, not to one part, but to all parts of the world for fields suitable to carry on profitable enterprises in their respective departments. Although very little—in fact, scarcely any—English capital has been employed in Colorado for the working of the mines there, nevertheless, this is no evidence that the knowledge of the wonderful richness of the country is confined to the States. As, however, at the present time there appears to be little difficulty in getting capital for the exploitation of mines in any quarter of the globe, it is not unreasonable to anticipate that very shortly it will be readily and willingly forthcoming to work enterprises in Colorado, where there is every likelihood that the returns will amply repay the expenditure. As a matter of fact we are told that at the present moment we are not only in the midst of booms in Africa, West Australia, or Rhodesia, but that in a very short time the market will be flooded with new companies owning properties in the Western States. It will not be out of place, therefore, in anticipation of this, to give some particulars of a new Colorado company, which might be looked upon as the forerunner of others. This group of mines goes by the name of the "Cosmos Gold Mines," owned by the Doric Gold Mines (Limited). They are situated on Saxon mountain, Clear Creek county, U.S.A., within the limits of Georgetown, Colorado, and about 600 feet from the Colorado Central Railway. These natural advantages afford in this manner great facilities for transportation. The mines are in the gold belt which commences with the Pulaski, running and opened by the Burro, Gold Coin, and Centennial, all dividend-paying mines, and thence to the Cosmos, on Saxon mountain, and then to the Saxon lode.

This group of gold mines embraces the Americ, Britannic, Celtic, Germanic, Doric, Electric, and Ionic, all contiguous veins. Each claim comprises 1500 feet by 150 feet. The claims are held in accordance with the United States mining laws and local rules and customs, and are entirely free from adverse or conflicting interests. The development warrants the issue of a patent, and the Government will yield the fee simple title upon application thereto. The property is developed by a system of tunnels, which are intended to have a common junction at different levels, so as to afford thorough ventilation, economy in working, and

an intersection of the lodes at a great depth. The Cosmos tunnel has already been driven 75 feet. It is 7 feet by 7 feet in the clear. It is nearly level with the railway track, and is the natural outlet to the group of mines. In about 75 feet it will intersect the Americ lode; its trend is south-easterly, almost at right angles to the lodes, which have the north-east and southwest strike common to the fissure veins of the county. No. 2 tunnel is south of the Cosmos, and about 100 feet higher, and has been driven 75 feet of a size 6 feet by 7 feet. At the mouth is an iron roof building for ore sorting, also used as a blacksmith's shop, and supplied with a full outfit of mining implements. No. 3 is still further to the south of No. 2, and about 100 feet higher. It has been driven 100 feet, and in a distance of 50 feet will strike the Celtic lode, and in its onward course will also intersect the line of the Cosmos. The tunnel is run on a spur of the Germanic, and has a leader of ore worth 1½ ounce of gold and 72 ounces of silver. No. 4 tunnel is still higher than No. 3; it has been driven 125 feet, and in 25 feet further will intersect the Britannic lode, and eventually the line of the Cosmos. No. 4 has encountered three leaders of ore each about 3 inches wide, which converge at the bottom of the tunnel, and when No. 3 is driven in under the course of No. 4 it will doubtless be found in the solid body. A drift has been run from the line of this tunnel on the Celtic lode about 50 feet in ore which improves with exploration, and this drift will strike the Germanic at or near the junction of several veins in a further distance of 25 feet, as nearly as can be ascertained by surveys.

We are informed that assays from the croppings of the veins yield 1½ ounce of gold per ton and 75 ounces of silver, while mill runs give 1½ ounce gold and 100 ounces silver per ton of 2000 lbs. The outcroppings of mineralised quartz and seams of ore cover a width of 50 feet to 100 feet on the vein. The subsequent development of the property will be seen from the following cables. The manager at the mines cabled on September 30th:—"From all parts of the mine assay value of ore from 20 dwts. per ton to 4 ounces gold, and about 40 ounces silver." A fortnight previously there was another cable to the effect that assays of the vein had resulted thus:—"Matter gave 780 ounces of gold per ton and 190 ounces of silver per ton. On September 19 the reef was assayed, and gave 13 ounces gold and 7 ounces silver per ton." The following was received on Monday last:—"The main tunnel crosscut. There is every indication to show we are close to the vein. Samples from the outcrops in various places assay 2 ounces per ton gold, \$50 silver." The above particulars which are taken from a lengthy report by Mr. THOMAS R. BEAUMONT, certainly go to show that the property is a promising one, and that with judicious management it is likely to turn out valuable. The mines are the property of the Doric Company, the capital of which is £125,000, in 500,000 shares of 5s. each fully paid. The property is acquired for £98,500, in fully-paid shares, leaving £25,500 for working capital. There have been considerable dealings in these shares during the past week at from 2s. 6d. to 3s., and there is every likelihood that in a short time they will greatly advance in price.

NOTES AND COMMENTS.

THE decision of the shareholders in the Champion Reef Gold Mining Company to acquiesce in the proposals of the board to acquire an additional stretch of ground, and so to ensure the future career of the company for a long period, is one that from every point of view can be heartily commended. Just at present the mine is opening up well, and there is every reason, according to the latest reported indications at depth, to suppose that it will continue to do so. Should this turn out to be the fact, the position which the company would be in if, in a few years they were suddenly to come to the end of their territory and find the pay-shoots passing into ground owned by another company can be easily be imagined, though it is, perhaps, difficult to gauge the precise extent of the wrath and dismay which would fill the minds of the shareholders. The sum to be paid for the additional ground—£45,000—is, no doubt, a considerable one, and will form a nice little reserve fund for the company who are to be fortunate enough to receive it. But, as a set-off, the Champion Reef are to acquire an additional distance of 2200 feet to sink upon the course of a well-tried reef, assuming, of course, that the dip of the angle undergoes no striking change. A programme of vigorous development is forming in the minds of the managers both in London and on the gold fields, and it is essential for carrying it out in a proper manner that the gentlemen whose province it is to supervise the company's operations should have a free hand. It would have been well if the resolution authorising the important step which the directors, after mature consideration, had provisionally decided to take, might have been carried unanimously, but Mr. Dyer has so often placed himself in issue with the board that his attitude on any question has ceased altogether to have any weight, unless it be in a contrary direction to the one he would suppose.

It is difficult to read the several columns of mining news that come to hand from Australia by every mail without being forcibly struck by the high degree of energy with which the industry is being prosecuted in Western Australia by the leading spirits of the mining community. Here a paragraph chronicling a rush in one direction, there a reported decision to extend a railway one stretch further into the interior, and somewhere else the account of a deputation to one of the Government officials to gain some point of industrial freedom, or the concession of some long-desired commercial advantage—all these combine to drive home the conviction that these active pioneers on the outskirts of our empire are grimly determined in their pursuit of wealth. Whetted by almost daily announcements of new discoveries, the appetites of these hardworking and industrious miners for concessions and leases may well be deemed insatiable. No luxury or idleness in Australia—work

always, and at high pressure! From one point of view the Anglo-Saxon race is certainly here seen at its best advantage. "Silken dalliance" is ever relegated to the cupboard, and there is one determined battle against Nature for her bounty. Notwithstanding the feverish haste in which the mining industry has been built up in the colony, created by men of this stamp it should at least have the element of permanency.

FAR from being set at rest by the measures recently taken in several influential quarters for regulating the supply of native labour in the Transvaal and the neighbouring territories, the difficulty seems ever to be growing greater, and to tax the ingenuities of the local mine managers to a more perplexing extent. Much of the attention of the Barberton Chamber of Mines and other similar representative bodies has been monopolised by the question, and in discussing its bearings the full force of the competition aroused by the scarcity of cheap labour has over and over again been indicated. The managers and managing directors of the South African companies appear to be eagerly running against each other in the race to obtain a sufficiency of natives to work upon the mines. In fact, if the local orators are to be believed, a whole set of doubtful practices have commenced with the sole object of enticing the "boys," as they are called, from one mine to another. One hears of white "touts" patrolling the different districts, and of natives being sent into the fields to fulfil in regard to their fellow-countrymen the purposes of a decoy. The competition, moreover, is not exclusively confined to companies, but is equally keen among the different districts. People in Barberton are complaining that the steps hitherto taken by labour experts to bring about a more satisfactory state of the mining labour market have been exclusively directed by a tender regard for Rand interests, to the exclusion of other districts. Now that the industrial depression that has so long hung over the Cape is decidedly lifting, hopes are springing up that what is undoubtedly a serious problem may receive such attention as will end in its being ultimately satisfactorily solved.

JOURNALS to hand from Paris afford more evidence, if any were needed, of the high estimation in which South African properties are held by, presumably, competent and disinterested judges. No suggestion is made that they are anything but sound and promising investments, while the writers almost uniformly express their pleasure at seeing their fellow-countrymen putting their capital into these well-tried and successful ventures. It was reserved for the Government of France alone to go to the other extreme of unreasoned condemnation, but as to that nothing need now be said, for the course of subsequent affairs deprives the recent utterances from official quarters of any title to serious consideration. After all, there is strong reason to believe that the carpenter criticism and wholesale strictures lavished upon Transvaal undertakings, and those responsible for their inception and management, have ended absolutely without result. Advices from over the Channel do not lead us to suppose that there is any disposition on the part of French investors to withdraw their support from the South African market. Despite the utterances of their leaders of financial opinion they may be credited with the ability to discern the merits of a good field for speculation when they see it, and that being so, they are not likely to turn the cold shoulder upon South African enterprises, notwithstanding the exhortions of their leaders.

ACCORDING to some articles that are to hand by a recent Australian mail, the fluctuations of the New South Wales gold mining industry, which have been so marked during the last two or three decades, are now culminating in a general improvement that bears indications of strong tendency to become permanent. From the high point of production which was attained in 1872, a decline commenced, and continued, in a more or less marked degree, right down to 1888, in a manner that occasioned a strong opinion among pessimists that the day of better things would never arrive. The balance of compensation has, however, been struck by a gradual and unbroken improvement that has asserted itself during the past seven or eight years, during which successive improvements have taken place in the figures of output. In part this approach to more prosperous times has resulted from the application of improved methods of gold extraction, and the fact certainly augurs well for the permanency of this improved state of the colonial industry. Recently, moreover, have been years of depression in the gold industry generally, and that New South Wales has made an uninterrupted advance through them all speaks well for the stability of her industrial outlook.

ONE of the disadvantages against which a legitimate and *bona fide* mining spirit has to contend is the stringent and, sometimes, even unfair laws and regulations relating to "lease-jumpers." This honourable fraternity, always on the look-out at headquarters for any trifling technical breach of the conditions under which a lease is granted, are ever ready to come into possession of a piece of ground upon which the previous occupant, thus summarily dispossessed, may have spent the best years of his life, and the entire contents of his purse. Cases of the most flagrantly unjust character have occurred where, owing to a mere oversight, a hard-working and energetic mining man has found himself suddenly ejected from his mining claim, towards the discovery and subsequent proving of which he may have done everything, by some outsider, whose only title to consideration lies in a detailed knowledge of technical law, and a habit of close and unfriendly scrutiny upon the conduct of others. "There is scarcely," says a colonial paper, "a gold field in the country where the jumping privileges are not grossly abused, and not unfrequently they are used for purely blackmailing purposes." While nothing can, of course, be said in defence of those defaulters who wilfully fail to comply with the terms under which their lease has been granted to them, it certainly is incumbent upon any Mines Department to see that the honest and enterprising miner, to whom the community necessarily owes a great deal, is able to pursue his calling secure from outside aggression and interference.

It should be eminently satisfactory to the shareholders in the iron and steel and allied market properties in this country that indications are growing that iron and steel producers in the United States are likely to be confronted soon with the necessity of going abroad to secure an additional supply of Bessemer pig, steel billets, and, perhaps, other and more finished forms of iron and steel. This was what took place during the "boom" periods of 1873-80 and of 1886-7. It is almost always the case when a trade revival occurs in the United States that the immediately available productive power of the country is inadequate to the demand, and though the deficiency is soon repaired, the effect in the meantime is to impart a great impulse to the importation of foreign-manufactured products. It is not only the insufficiency of the productive power, however, which imparts this stimulus, but the rapid rise of price which attends it. The rise in American iron and steel has already been very considerable, and there is no reason to suppose that the maximum has yet been reached. Bessemer pig has advanced from \$10 to \$15 per ton, and steel rails from \$22 to \$28. Steel blooms have nearly doubled in price, rising from \$15 to \$26, and as demand is said to be active at these prices, as the railway companies and other large purchasers are still placing their orders freely, there is every probability that prices will go higher. So far, the American demand for English iron has not attained very large proportions. It is practically confined to homatite pig, steel billets, and tin-plates, but if the "boom" continues we are pretty sure to see an influx of American orders. Our shipments of tin-plates to the United States are still restricted by the desperate efforts of native producers to keep their works in operation, even at some temporary sacrifice, but every day their position becomes more difficult owing to the rapid rise of wages and material, and at any moment they may be expected to retire from the unequal contest, and leave the market open to the Welsh firms.

ATTENTION is being directed in South Africa, and not too soon, to the question of company nomenclature. A well-known custom exists amongst the promoters of some companies to link the names of their enterprises with those of other undertakings which have achieved signal success in the financial world, though in the matter of locality the connection that is sought to be established is completely without any sort of justification. That this is done to a very large extent nobody at all familiar with the company lists will ever deny—in fact, a glance at any one of the lists published weekly by any of the leading firms of respectable brokers will show with what strange persistency the average promoter of companies rings the changes upon some high-sounding name which is pleasing to the ear, and recalls to memory some mine of great wealth, whose astounding output may be supposed to create dazzling visions of possible wealth lying in the future. There is, however, another great objection to be brought against the present system of company-christening, and it lies in the confusion which must necessarily be created in the minds of the outside public, and, in fact, of those also who are connected—and not remotely—in business with the inner financial circles. A company has a certain title given to it, and, if it be successful, there are sure to be other companies named after it, with the simple addition of some such word as "North," "Extended," or "Consolidated." The bewilderment which this strongly-marked tendency to masquerade in borrowed plumage must produce in the minds of the average investor can be easily understood. Probably the unhappy tendency here noted may to some extent be traced to a lack of originality on the part of those responsible for the launching of the various undertakings from time to time put upon the market. Men whose everyday life positively bristles with instances of glaring originality are sometimes known to drop unexpectedly into the common-place when asked to suggest an appropriate appellation, whether it be for a Limited Liability company, a ship, or a railway engine.

THE MINING MARKET.

FRIDAY EVENING.

A severe collapse in Kaffirs follows the mid-monthly account.—The Barnato Bank settlement.—West Australians well supported.

THE past week has witnessed a complete change of front in the South African Market. Whereas for some time the professional division was ostensibly at work in getting prices higher, since the making up for the mid-October Settlement, which took place on Saturday last, there has been an open desire to bring about a decline. In plain English, the dealers are bears to a man, and to this fact may be attributed the absence of serious failures in the market as an attendant to the heavy slump that has been brought about. The making up list on Saturday showed a universal loss upon the prices fixed at the preceding Settlement. In very many cases the differences between top prices and those at which continuations were arranged, was considerably greater than those payable by operators for the rise, who had been content to sit upon what they had carried over without increasing their commitments. But, in any case, the fall was sufficiently serious to give rise to grave apprehensions. The remarkable feature is that no instances of open default were announced until this morning, when two small men were hammered. It was generally understood that some few small dealers had been helped over, and brokers were complaining that they were obliged to finance many of their clients. The continuation of shares not classed as rubbish was very much a matter of individual credit. Some firms had no difficulty at all, others had the greatest obstacles put in their way. To a third class carrying-over was refused point blank. There could be but one sequel to an account arranged in such a fashion. Where brokers had assisted weak clients, it was understood that the arrangement was but temporary. Dealings for cash were practically impossible on Contango Day, the stocks carried had to be realised for the end of the month Settlement. Blocks of shares which were not carried over had to be sold under the hammer. Prices gave way in all directions and the market for a time was demoralised. Under normal conditions a speedy reaction might have been expected, but an ex-

ceptional factor entered into the situation in the Special Settlement in Barnato Bank shares, which commenced this morning, and will be concluded on Monday. We may be forgiven if we reproduce our comments in this column of September 7, 1895, in dealing with the original introduction of these shares upon the market.

The whole principle of this Barnato Bank flotation is mischievous. In the first place, the title is a moniker, the concern being a mere imitation of the old Trust Company, which did so much to bring the Stock Exchange into disrepute some three or four years ago. To give par for the stock of an undertaking which affords a mere dumping-ground for the surplus stocks which the Barnatos have been trying to unload for months and years would in itself be foolish enough, but to pay a premium of 300 per cent. for that stock within a few hours of its issue is nothing short of madness. However, the mischief is done. The British public is landed with large blocks of these shares, and for mere decency's sake it is to be hoped that the head wirepuller will support the market, so as to give them some sort of a run for their money. We regard this deliberate inflation of values as the very worst thing that could happen, not only from the market point of view, but in the genuine interests of the African Mining Industry.

The making-up price this morning was 2½, which leaves practically every bull of the shares with differences to pay, for the tendency has been steadily downwards, the rallies on each successive fall being proportionately inconsiderable. It is impossible to say how much further the forced liquidations of Kaffir shares generally will proceed. The public has now to grapple with one of its greatest bugbears, the unscrupulous gossip of the rampant bear. Every difficulty is bound to be exaggerated to the utmost in the hope of forcing out from frightened investors the stock which will enable operators for the fall to secure the profits shown to their credit on paper. It is upon this hourly-increasing bear position that the best hopes of recovery are based. If genuine holders stick to their guns they may yet defeat the unscrupulous tactics that have been brought to bear against them. The bears are notoriously a more timid body than the bulls. Should the events of the next few days show the financial position to be stronger than the man in the street would have us believe, it is not unreasonable to expect a sharp rebound in prices. The eager sellers of to-day may become the buyers of to-morrow. It remains to be seen whether the big men, the Barnatos and the Robinsions, will play into the hands of the bears or assist their legitimate allies—the investing public.

In the bustle of the Settlement on Saturday, it was difficult to trace much new business. Kaffirs closed at a general slight improvement, and West Australians were absolutely buoyant, West Australian Gold Fields putting on 1½ at 8½. On Monday it became apparent that too lenient an estimate had been formed of the difficulty in arranging the account in Kaffirs. Brokers were offering enormously high rates on all sorts of shares, and in spite of the weeding out of many weak speculators, there was no disguising the extent of the public bull account. Upon this the professionals set to work with a will, and the bear which has been in progress throughout the week made such a start that, whereas at noon the market looked as good as gold, it finished as flat as ditchwater. Rumour was busy with circumstantial accounts of failures in Paris, Vienna, and Glasgow, but nothing has since transpired in support of these canards. On Tuesday a steadier tone was noticeable, and alarmist reports were less persistently put about. West Australians were steady without much business. On Wednesday, which was Pay Day, attention was entirely devoted to the Kaffir Market, where a dull hesitating tone prevailed. Specialities in the West Australian Department, however, were firm and active, and three or four substantial gains were recorded. On Thursday, business throughout the House was feverish and unsatisfactory. Forced sales were pressed with relentless persistency, and the bear brigade was rampant with predictions of mischief. This morning was one of the gloomiest that has been experienced for months. The Kaffir Circus was absolutely demoralised for the first hour or two, the greatest uncertainty prevailing as to whether the Barnato Bank Settlement would be arranged without a crash. Carrying-over facilities were at first refused to a good many brokers, but eventually wiser counsels prevailed, and shares were taken in at rates ranging from 8 per cent. upwards. The Barnato brokers bid freely for shares for cash, and at one time the phenomenal position was revealed at a lower quotation for the middle of November than that openly bid for cash, and this in spite of the fact that a heavy charge was made for continuation. About noon when everything appeared to be at its worst, there was a sudden turn, and the market finished good, with Street prices the best of the day. It must be remembered, however, that active dealing is restricted to some dozen specialities, such as Chartered, East Rands, Barney Consols, and Randfonteins. For others quotations are to a large extent nominal, and it is only when actual business is pressed that a close quotation is obtainable. The market has certainly a healthier appearance to-night than it has worn at any time during the week. Let us hope that the bears have burnt their fingers.

South African Shares.

Barney Banks were bid for in the Street to-night at 2½. On Thursday they dipped to 2½. Barney Consols were 3½ this morning. They close at 4 bid, at a loss of ½ on the week. Buffels have fallen ½ to 6½, Croesus ½ to 2½, Glencairn ½ to 3½, "Johnnies" Investments ½ to 5½, after being offered at 5, Langlaagte Royal ½ to 2½, May Consolidated ½ to 3½, Primrose ½ to 6½, and Rietfontein ½ to 4½. On the whole it will be seen that the Barnato division have supported their specialities fairly well. The same may be said of the Robinson group, Randfonteins closing unchanged at 3½, Langlaagte Estates ½ down at 6, and Block B ½ lower at 1½. In East Rands some very excited dealings have been witnessed, fluctuations between 8½ and 10 taking place every day until this morning, when the price dipped to 8. An obviously inspired telegram from Paris predicted difficulties on the Bourse at the coming special Settlement in these shares, in spite of the public announcement of the Anglo-French Exploration people that they are prepared to contango them at 4 per cent. Anglo-French shares close ½ lower at 5½, and East Rands have finally recovered to 8½. St. Angelos are maintained at 5, and Comets ½ lower at 3½. Rand Mines had a slump on Thursday when a large block, which the owner was unable to carry over, was sold at 36 under the hammer. The price was 35½ in the semi-panic this morning, but at the close there was a recovery to 36½, marking a loss of 2½ on the week. Goldfields Deep, which moved in sympathy with Consolidated Gold Fields were as low as 9½ this morning, closing at 10½, a loss of 1½. Goldenhuis Deep had shed ½ at 8½, and Consolidated Deep Levels ½ at 6. The bears made a special attack upon Consolidated Gold Fields Deferred, when the dividend announcement was officially published on Thursday. They argued that the £1 per share distribution would not pay more than two months' contingencies, 5s. per share having been charged this settlement. From 18½ the shares were promptly sold down to 17, and this morning touched 16½. This afternoon there has been a strong

ally to 17½. Gold Trusts close 1½ down at 10. The Eckstein group has maintained its ground in a very satisfactory way. Simmers, which early in the week mounted to 27, close without loss at 25. Ferreiras at 19, Heriots at 9½, Jumpers at 7; Nigels at 6½; Wemmers at 10½; Salisburys at 5½; and Henry Nourse at 6½, are all within half a point of last week's prices; whilst the losses in Citys at 5½, and Geldenhuys at 5½, are not more than ½. A quarter will cover the set-back in Bantjes at 4½; Crown Reefs at 10½; Durbars at 7½; George and May at 1½; Meyer and Durbars at 6½; Orion at 4½; and Robinson at 10½. It will be seen from these figures that steady-going investors have not serious grounds of complaint. It is in the avoidably speculative descriptions that the havoc has been wrought, and no stock has lent itself to attack more than Chartered, in which there has been a very ragged speculation for the rise. The shares touched 6½ this morning, closing at 6½, a loss of ½ on balance. A loss of 1½ is shown in Transvaal Gold at 7½, and most of the Lydenburg shares are easier, Spitzkops being last quoted at 1½; Graskops at 6s. 6d., Balkis at 8s. 6d., and Eersterling at 6s. The Van Ryn group has been weak, Van Ryns losing ½ at 7½, and Wests at 4½. New Africans are ½ lower at 6½, and Australas ½ down at 1½. Klerksdorp have lost 2s. 6d. at 10s., whilst Hendersons are maintained at 3½, and Tati Concessions at 2½. Diamond shares have been left alone, except in the case of De Beers and Jagers. The former mounted to 31½, dipped this morning to 28½, and closing at 29½ show a loss of 1½. The net decline in Jagers is 1½ at 8½.

West Australians.

A gratifying steadiness has been displayed by the better class of Westralian properties throughout the week's flatness. Had the speculation been carried on in this department on the same lines as that in the Kaffir circus, it goes without saying that the result would have been the same. As it is, there has been very little carrying-over and holders are free from the attendant panic which leads to the sacrifice of so many intrinsically valuable shares in times like the present. Lady Loche, to which we drew attention last week, mark a rise of half a point 2 after being quoted at 3½. A gain of ½ is shown in Lady Shenton at 2½ on a very satisfactory cablegram received from Messrs. H. J. Saunders and Co., of Perth. Associated have been wonderfully firm, and close ½ better at 2½. The Hannan's group generally has commanded wide attention—Brownhills in particular, on the strength of Herr Schmeisser's report, have risen 1½ to 7. True Blues, for which we had a good word last week, are ½ higher at 3½; Napier's are ½ up at 1½, and Hannan's Reward have stood their ground at 3½. Great Boulders dipped to 6 on a few forced realisations, but at 6½ show a decline of only ½. The Menzies properties have gone a'head, Menzies Mining being half a point better at 2½. Bayley's Reward have improved to 8s. 6d., and Big Blows are without alteration at 1½. The highly satisfactory statement published by the directors of Hampton Plains should before long have its effect upon the price of the shares, which are finally unaltered at 4½. The various Finance companies show satisfactory positions at the close of a trying week. London and Globe are firm at 2½, and Gold Fields ½ up at 7½, after rising to 8. Concessions are ½ better at 2½, and Explorations a like amount to the good at 6½. Colonial Finance, after going over 7 prem., close ½ higher at 6½. There seems to be every probability that the public will devote increased attentions to Westralians at the expense of Kaffir.

Miscellaneous.

A feature of the week has been the growing demand for Indian Gold shares. Champion Reefs have risen ½ to 4½; Gold Fields of Mysore 1s. to 24s. 6d., Mysores ½ to 3½; Nundydroog ½ to 2½, and Ooreangs ½ to 3½ to 4. Brilliant have recovered the deduction of a sixpenny dividend and bonus, whilst Mill's Day Dawns have given way to a shade over 1. Broken Hills, in which there is still an oversold account, are ½ higher at 2½. In Copper shares, Tintos have attracted a good deal of notice, closing at 18½ as against 19½ a week ago. Capes at 2½, and Masons at 2½, are as they were, whilst Libiola show a loss of ½ at 3½. Dealings in most of the less freely quoted shares have been matters for negotiation.

STOCK EXCHANGE SETTLING DAYS.

Settling Days on the Stock Exchange are as follow:—

CONSOLS.

Wednesday, November 6.

STOCKS AND SHARES.

OCTOBER.

Ticket Days. Account Days.

Tuesday, October 29 | Wednesday, October 30

NOVEMBER.

Wednesday, November 13 | Thursday, November 14

Wednesday, November 27 | Thursday, November 28

CONTANGO DAYS FOR MINING MARKET:—

Saturday, October 26 | Monday, November 11

Monday, November 25

FOREIGN MINING MARKETS.

COLORADO.

COLORADO SPRINGS, COLO., OCTOBER 5.

The market for the past week has apparently reflected the opinion I advanced concerning it in my last review. Almost without exception stocks backed by property of doubtful value, and not particularly well located, have steadily declined, while such stocks as Summit, Portland, Gold and Silver, Anaconda, Pharmacist, and numerous others of a like character, have held their own, and several of these have advanced directly in the face of the now marked reaction we have experienced in months. In the opinion of those who have carefully studied the situation, there is now undoubtedly ample material for a universal advance. There will probably be a strengthening of the market during the next 30 days. It may not make its appearance in a week, but it is sure to appear.

At present there is a noticeable absence of professional manipulation, and most transactions emanate almost entirely from Eastern orders. Local orders are generally standing "pa," preferring to await an upward movement, and many are inclined to believe that the present depression has not reached bedrock. There are few indications of further declines, and this, coupled with an expansion of Eastern buying must have its effect sooner or later.

The position of the week was unquestionably the steady decline in the prices, although it was generally supposed that both Mollie Gibson and Argentum had reached bottom prices; still, for some unaccountable reason the former shows phenomenal weakness. There is practically no demand for it at my office, and from all that can be learned, it can hardly be considered a good purchase, even at present quotations. One could not much more intelligently be led astray. This should naturally be the means of economically profiting from the market. There are, however, too many attractive Cripple Creek properties for one to consider silver miners, and those who are now operating in the silver stocks are either petty scalpers or of the unfortunates who are endeavouring to see-saw the market in order to play even on past investments in them.

Regarding Argentum, little is apparently known to the public. Regardless of the present quiet at one, so long as the dividend continues it is a good purchase, but if the 6s. is any likelihood of their ceasing, which at this time cannot be necessary, it would be well to let it severely alone.

On the whole, I am inclined to advise against the purchase of silver stocks in general, having in mind Cripple Creek Consolidated, Work, Anaconda, Mount Mollie, and Grado, and Cripple Creek, possibly Pharmacist, and always

The LIST OF SUBSCRIPTIONS will OPEN on MONDAY NEXT, the 21st October, and will CLOSE for LONDON on the same day at 4 p.m., and for the COUNTRY on TUESDAY, the 22nd October, 1895, at 12 NOON.

The Forrest King of Coolgardie, Limited.

Incorporated under the Companies Acts, 1862 to 1890.

CAPITAL £75,000.
Divided into 75,000 Shares of £1 each.

Of which 20,000 are now offered for Public Subscription. Payable as follows:—5s. per Share on Application, 10s. per Share on Allotment, and the balance as and when required in calls of not more than 2s. 6d. each, at intervals of not less than one month.

DIRECTORS.
GRAHAM KING, Esq., Aldermanbury, London, E.C., Chairman (Chairman Lady Loch Gold Mine, Limited).
Right Hon. Lord ROBERT MONTAGU, 91, Queen's Gate, London, S.W. (Chairman United Limmer and Vorwoold Rock Asphalt Company, Limited).
Lord DOUGLAS of HAWICK, Chalcot House, Long Ditton.
Sir E. T. GOURLEY, M.P., Sunderland (Director Lady Loch Gold Mine, Limited).
J. RUSSELL CLIPPERTON, Stafford Lodge, Upper Norwood (Director Lady Loch Gold Mine, Limited).

LOCAL DIRECTOR.
F. C. MONGER, Member of the Legislative Assembly for York, Perth, Western Australia.

BANKERS.
PRESCOTT, DIMSDALE, CAVE, TUGWELL, and COMPANY (Limited), 50, Cornhill, London, E.C.

BANK OF AUSTRALASIA. Coolgardie and Perth, Western Australia.

SOLICITORS.
E. F. and H. LANDON, 53, New Broad Street, London, E.C.

AUDITORS.
GANE, JACKSON, and JEFFREYS, 53, Coleman Street, London, E.C.
SECRETARY and OFFICES (pro tem).
O. C. RAWSON, 9, Tokenhouse Yard, London, E.C.

LOCAL SECRETARY.
J. STROUD READ, Perth, Western Australia.

MINE MANAGER.
ROBERT McCracken, Coolgardie.

PROSPECTUS.

This Company is formed to acquire and work the Lady Forrest Gold Mine, situate on the Coolgardie Gold Field, and adjoining the Lady Loch Gold Mine. A plan of the property will be found with prospectus. The property is held under Gold Mining lease, No. 284 of the Coolgardie Gold Field, and consists of about 12 acres. The lease is granted direct from the Government of Western Australia, on the usual conditions, and is now vested in the Lady Loch Gold Mine (Limited) having with the sanction of the Minister of Mines been transferred to that company in April last. A copy of the Report made by Mr. Robert McCracken, the Mine Manager on 15th April, 1895, after taking possession on behalf of the Lady Loch Gold Mine (Limited) accompanies prospectus.

Since the acquisition of the Mine by the Lady Loch Gold Mine (Limited), work has been steadily progressing, and the extracts from the letters of Mr. J. S. Read, the Local Secretary of that Company to the London Secretary, which are set out in Prospectus, contains reports made to him by Mr. McCracken, and show the present development of the property and Mr. McCracken's views as to its future success.

In the opinion of the Directors of the Lady Loch Gold Mine (Limited), the time has now come when operations at the LADY FOREST MINE should be pushed on vigorously and machinery erected, and as this course involves considerable capital outlay, it has, after consideration, been thought advisable to incorporate the LADY FOREST MINE as a separate undertaking.

The purchase consideration for the Mine has been fixed by the Lady Loch Gold Mine, Limited, at £15,000, to be satisfied by the allotment to the Vendor Company of 45,000 fully paid-up Shares, and in addition the Vendor Company is to receive in cash £750, being the estimated amount of the monies expended in the acquisition, development, and working of the Mine. It is now proposed to issue 20,000 Shares for the purpose of providing for the payment of the above-mentioned sum of £750, and the expenses of the formation of the Company, and for the necessary working capital. The remaining 10,000 Shares will be reserved for future issue, if and when required for the further extension and development of the property and undertaking.

Mr. GRAHAM KING, Sir E. T. GOURLEY, and Mr. J. RUSSELL CLIPPERTON, who are Directors of this Company, are also Directors of and Shareholders in the Vendor Company. LORD DOUGLAS of HAWICK, who is a Director of this Company, is also a Shareholder in the Vendor Company.

The following Contract has been entered into—namely, a Contract dated the 18th day of October, 1895, and made between the Lady Loch Gold Mine, Limited, of the one part, and this Company of the other part. The Vendor Company has undertaken not to place upon the market for the period of two years from the date of Allotment 30,000 Shares, part of the 45,000 Shares mentioned above.

The Directors have taken the greatest care to ensure the accuracy of the statements in this Prospectus, and to satisfy themselves that they are made by competent and reliable persons, and applicants for Shares shall be deemed to waive any claim in respect of mis-statements (if any) innocently made, or any inaccuracies in the sketch map published, or in respect of the Directors, or any of them being Directors or Shareholders in the Vendor Company.

Mr. McCracken's letter of 15th April, 1895, and the letters and Cablegrams from the Local Secretary of the Lady Loch Gold Mine (Limited), which, or extracts from which, are set out below, and copies of the Memorandum and Articles of Association of the Company, and of the above mentioned Contract, can be inspected at the Company's Office as above.

Applications for Shares must be made on the Form accompanying the Prospectus and forwarded to the Company's Bankers, together with a remittance for the amount payable on application. In cases where no Allotment is made, the amount deposited on application will be forthwith returned without deduction. If the number of Shares allotted be less than that applied for, the surplus will be credited in reduction of the amount due on allotment so far as necessary, and any balance will be returned.

The Directors propose in the allotment to give a preference to applicants who at the date of allotment are shareholders of the Lady Loch Gold Mine, Limited.

Prospectuses and Forms of Application may be obtained from the Bankers, and at the Offices of the Company.

London, 19th October, 1895.

CABLEGRAM FROM THE LOCAL SECRETARY RECEIVED 15TH OCTOBER.

"The latest information from the Lady Forrest Mine is excellent, and is almost daily improving. The Main Shaft is now down 114 feet. The Middle Underlay shaft is down 123 feet. The Reef continues to widen, and shows gold freely. Expect to strike water in another 30 feet. Consider value of Ore at grs £16,000."

This Form should be filled and forwarded with a cheque for the amount of the deposit to the Company's Bankers:

PRESCOTT, DIMSDALE, CAVE, TUGWELL, and COMPANY (LIMITED), 50, Cornhill, London, E.C.

FORM OF APPLICATION FOR SHARES.

To the Directors of

THE FOREST KING OF COOLGARDIE (LIMITED).

Gentlemen.—Having paid to the Company's Bankers—Prescott, Dimsdale, Cave, Tugwell, and Company (Limited)—the sum of £1,000, being a deposit of 2s. per Share on

shares in the above-named company, I request you to allot me that number of shares upon the terms of the Company's Prospectus, dated 15th October, 1895, and I hereby agree to accept the same, or any smaller number that may be allotted to me, and to pay the balance thereon according to the terms of the said Prospectus, and I authorise you to register me as the holder of the said Shares.

Name (in full) _____
Address _____
Description _____
Date 1895 _____
Usual Signature _____

NEW TRANSVAAL GOLD MINING COMPANY (LIMITED).—The statutory general meeting of the shareholders in this company was held on Monday last, at the offices, 50, Holborn Viaduct.—Mr. W. Hermann, who presided, said: Gentlemen—As you are aware, this meeting is simply called in accordance with the law, and constitutes the first general, or statutory, meeting of the company. Mr. Waldek, the managing director, left on September 21 for the Cape, and I am pleased to say we had news last week that he arrived all right.

There is now nothing further to report as regards the business of the company, but I hope that when you are next called together the then Chairman will be able to lay a very favourable report before you.—A vote of thanks to the Chairman terminated the proceedings.

DEVELOPMENT AND FINANCE COMPANY.—The statutory meeting of this company was held on Monday, at Winchester House. Mr. C. T. Tapp presided, and stated that the company had only been in existence about four months. Their capital was a quarter of a million, of which £50,000 had been placed in England at par. When he was in South Africa he placed 50,000 shares with the best practical mining men he could find, so that this company had an interest in several companies there. He gave an account of several transactions that he had taken part in on behalf of the company, stating that as a result of having £25,000 of capital in hand, they had, he expected, made about £50,000 of profit. The directors were now considering a mining property offered to them in New South Wales, with a view of thoroughly opening it up.

REGARDING ARGENTUM, little is apparently known to the public. Regardless of the present quiet at one, so long as the dividend continues it is a good purchase, but if the 6s. is any likelihood of their ceasing, which at this time cannot be necessary, it would be well to let it severely alone.

On the whole, I am inclined to advise against the purchase of silver stocks in general, having in mind Cripple Creek Consolidated, Work, Anaconda, Mount Mollie, and Grado, and Cripple Creek, possibly Pharmacist, and always

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET, LONDON, OCTOBER 18.

Copper.

THERE is still a great deal of talk about what is called the "Anaconda deal," but those who ought to possess the most reliable information continue to state that it is limited to a purchase of one-fourth of the share capital (as reported in our metal report of September 13). Whether this will be offered to the British public or not, it is definitely announced from America that the management of the mine will remain in the hands of the owners of the remaining three-fourths of the capital. That this "deal" should influence copper one way or the other seems absurd, but some people assume that those who would eventually bring out the shares of the British public would endeavour to put copper up as a means to that end. It is, however, much doubted whether this scheme could be carried out. The statistics this week show a very slight improvement. The G.M.B. market opened flat at £15 6s. 3d. a.c., but declined to £15 6s. on the following day, and to £15 7s. 6d. on Wednesday. From that point it improved to £15 9s. 9d. again, the value varying slightly up and down between the limits named, and closing to-night flat at £15 9s. 9d. English consumers continue to be very fully employed, and must be long replenished their much-depleted stocks. At the easier values now ruling a moderate trade is being done.

Tin.

With silver steadily going back the tin market has been feeble, and has sustained a somewhat heavy loss in values. About 320 tons were done on Monday at £25 10s. to £25 8s. 9d. cash Straits, and on Tuesday a rather larger quantity changed hands down to £25 15s. Wednesday was less active, but values remained steady. Yesterday the aspect of the market was the same, but £25 7s. 6d. was taken, and to-day the weaker tone persisting, business was done at £25 3s. 9d. The close is steady at £25 5s., to £25 12s. 6d. three months. In the Dutch market Billiton tin was quoted successively at 39½ fl., 39½ fl., 39½ fl., and 39½ fl., the closing value of s. 9d. Banca has fallen to 39½ fl.

Pig Iron.

On Monday Scotch was dealt in at 47s. 2d. to 48s. 11s. a.c., on Tuesday at 48s. 10d. to 49s. 1½d., on Wednesday at 47s. 3d. to 47s. 4½d., on Thursday at 47s. 5d., to 47s. 7d., and to-day at 47s. 3d. to 47s. 2½d., at which price there are buyers at the close. Hamatite was successively quoted at 48s. 6d., 48s. 7½d., 48s. 7d., 48s. 8d., 48s. 8½d., and Middlesbrough at 38s. 3d., 38s. 4d., 38s. 5d., 38s. 6d., and 38s. 7d.

Lead.

After giving way to the extent of 3s. 9d. per ton, closes much firmer, and in active request at £11 6s. to £11 7s. 6d. soft foreign, and £11 7s. 6d. English.

Splinter

continues very steady, and there has been perceptible improvement in actual trade this week, galvanised especially, being very busy, and having to buy pretty freely to cover part of their large requirements. We close at £15 5s. to £15 7s. 6d. ordinary, and £15 7s. 6d. to £15 10s. for specials.

Antimony

steadily at £31 10s.

Quicksilver

unchanged at £7 7s. 6d. firsts and £7 5s. 6d. seconds.

The following are to-night's (October 18) prices of metals:—

“THE MINING JOURNAL” SHARE LIST.

ABREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay.* Antimony; *A.* Arsenic; *Bl.* Blende; *Bz.* Borax; *C.* Copper; *D.* Diamond; *G.* Gold; *I.* Iron; *L.* Lead; *M.* Mumbo; *N.* Nitrates; *P.* Phosphates; *Q.* Quicksilver; *R.* Ruby; *S.* Silver; *S-L.* Silver-lead; *Sul.* Sulphur; *T.* Tin; and *Z.* Zinc. * in the “Amount of Share” column of British Mines signifies that the mine is conducted on “Cost Book” principles; I in the “Head Office” column of African Mines signifies that the address given is not that of the head office, but of a sub, or transfer office; and †, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

** The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

BRITISH MINES.

Name	Closing Price, Oct. 18, 1895	Closing Price, Oct. 11, 1895	Am't. of Share	When last XD and Dividend	Called up per Share	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office
Blue Hills <i>CT</i>	2/- 4/-	2/- 4/-	£ s.	2/- May '91	£ s. d.	5,353	Cornwall	Camborne.
Botallack <i>7</i>	—	—	*	—	51 4 6	1,280	“	St. Just.
Carn Brea <i>T</i>	1 1/2	1 1/2	1 1/2	—	2/6 Dec. '93	22 8 5	6,000	Cornwall
Cook's Kitchen <i>T</i>	1/2 3/4	1/2 3/4	1/2 3/4	—	35 15 10	4,800	“	Camborne.
Devon Gwton <i>CA</i>	15 20	par 3/4pm	1 0	—	0 12 6	25,000	Tavistock	8, Finsbury circus.
“ Gt Cons. <i>CA</i>	15 1/2 15 1/2	5 0	1/5 May '95	2 0 0	10,240	Devon	Devon	Cambridge.
Dolcoath <i>7</i>	17/ 18/	17/ 18/	1 0	—	1 0 0	“	Cornwall	“
“ 6/ 6/	6/ 6/	1 0	—	part paid	0 2 0	81,856	“	Cambridge.
Drakewalls <i>CTM</i>	2/- 2/6	2/- 2/6	8/-	—	“	“	“	Dashwood House.
East Hawkyn <i>7</i>	20/- 25/-	20/- 25/-	1 0	—	0 2 6	12,000	Flintshire	67, Lord St. Liverpl.
“ Pool <i>AT</i>	4 1/2 4 1/2	4 1/2 4 1/2	4 1/2 4 1/2	1/6 Sept. '94	0 9 8	Cornwall	Illogan.	20, Great St. Helena.
Gawton <i>CA</i>	—	—	2 10	—	2 7 3	12,000	Devon	20, Great St. Helena.
Great Laxey <i>L</i>	1 1/2 1 1/2	1 1/2 1 1/2	4 0	5/- Apr. '92	4 0 0	15,000	I. of Man	Douglas, Isle of Man.
Green Burth <i>L</i>	1/6	1/6	1 0	—	6/- June '94	0 19 0	Umberland	Newcastle.
Hawkyn <i>L</i>	0 10	9 10	10 10	2/- Sept. '95	1 0 0	10,000	Flintshire	Chester.
Do. Dis. Mn. Drain <i>L</i>	10 11	10 11	10 0	5% Aug. '95	10 0 0	10,000	“	Chester.
Isle of Man <i>L</i>	3 1/2 4 1/2	3 1/2 4 1/2	5 0	2/-	95	5 0 0	14,000	I. of Man
Killifreth <i>T</i>	9/6 10/6	6/6 7/6	*	1/6 Nov. '94	5 15 6	6,000	Cornwall	Truro.
Leadhills <i>L</i>	1 1/2 1 1/2	1 1/2 1 1/2	6 0	3/- Sep. '92	6 0 0	20,000	Lanarksh.	30, Finsbury-circus.
Llanarmon <i>—</i>	par	par	1 0	—	1 0 0	21,990	Denbigh	8, Werburgh Chmbrs
“ <i>CT</i>	par	par	1 0	—	0 15 0	2,790	“	Chester.
Levant <i>CT</i>	4 1/2 4 1/2	4 1/2 4 1/2	4 1/2 4 1/2	4/- Nov. '94	11 9 6	2,500	Cornwall	Penzance.
Lowell <i>T</i>	—	—	1/3 Nov. '91	1 16 7	2,185	Wendron	3, Gt. Queen-st. S.W.	
Miners. <i>L</i>	—	—	5 0	5/6 Mar. '90	5 0 0	“	Central Boulder <i>G</i>	
Neath & Tidie <i>LZ</i>	1/6	1/6	1 0	6 Feb. '91	10 18 3	48,875	St. Hild.	“ Exp. of W.A.
New Cooks Kitn. <i>TC</i>	—	—	1 0	—	1 0 0	30,000	Camborne.	Chaffers.
“ Miners. <i>—</i>	—	—	1 0	1/- Oct. '92	1 0 0	“	“	
North Hendre <i>—</i>	—	—	2 10	8 p.c. year '91	2 10 0	11,354	Flintshire	“ Consolid.
Paro <i>LZ</i>	—	—	1 0	—	1 0 0	5,000	Llanrwst.	Colonial Finance.
Phanix United <i>TC</i>	—	—	1 0	1/- Mar. '90	7 4 8	10,865	Cornwall	Con. G. M. of W. A.
Polberro <i>T</i>	5 1/2 7	5 1/2 7	*	—	2 1 5	18,000	S. Agnes, Cl.	“ Murchison.
Rhosemor <i>L</i>	par	par	1 0	10 p.c. Sept. '91	1 0 0	1,000	Flintshire	Caledonian <i>G</i>
“ <i>L</i>	par	par	1 0	—	0 19 0	15,000	“	Carrington.
So. Condurrow <i>TC</i>	1/6 2/6	1/6 2/6	—	3/5 Apr. '93	7 17 8	8,123	Cornwall	Cashman Brill. <i>G</i>
“ Crofty <i>TA</i>	4 1/2 5/6	4 1/2 5/6	*	—	17 10 6	5,769	“	Cassidy Hill <i>G</i>
S. Frances Untd. <i>T</i>	1 1/2	1 1/2	1 1/2	—	2 7 6	6,000	“	Central Boulder <i>G</i>
“ Hawkyn <i>—</i>	par	par	1 0	—	1 0 0	10,000	Flintshire	“ Exp. of W.A.
“ Metal & F. <i>T</i>	—	—	1 0	—	0 7 0	30,000	“	Charters Tow. <i>G</i>
Talacre <i>—</i>	par	par	1 0	—	0 16 0	20,000	“	“
Tincroft <i>T</i>	6 1/2 7	6 1/2 7	par	2/- Aug. '94	15 7 6	6,000	Flintshire	“
Weardale <i>L</i>	8/9 8/9	8/9 8/9	4 0	1/3 Oct. '90	1 10 0	50,000	Durham	“
West Frances <i>T</i>	14 3/4	14 3/4	14 3/4	2/6 May '95	17 1 7	8,144	Cornwall	20, Great St. Helena.
“ Kitty <i>T</i>	4 1/2 4 1/2	4 1/2 4 1/2	—	2/- Dec. '94	1 2 0	8,000	“	Pool, Cornwall.
Wheal Agar <i>TA</i>	3/2 3/2	3/2 3/2	3/2 3/2	2/6 Aug. '88	23 15 2	8,000	“	Redruth.
“ Basset <i>TC</i>	2/6 3/2	2/6 3/2	—	10/- Apr. '88	12 3 0	8,144	“	2, Cophatrig Bldgs. E.O.
“ Friendly <i>T</i>	1/1 1/6	1/1 1/6	—	—	0 12 0	10,000	“	7, Union-court, E.O.
Grenville <i>T</i>	12 1/2 13 1/2	12 1/2 13 1/2	—	3/- July '95	18 2 0	6,000	“	Truro.
“ Kitty <i>T</i>	3 1/2 3 1/2	3 1/2 3 1/2	—	3/- Mar. '88	4 5 8	8,590	“	14, Broad-street.
“ Metal & F. <i>T</i>	—	—	—	—	0 13 9	10,784	“	“

EUROPEAN MINES.

Name	1 1/2xd	1 1/2	2 0	1/6 Oct. 18 '95	2 0 0	35,000	Spain	8, Queen-street-place
Alamillos <i>L</i>	1 1/2	1 1/2	1 0	1/- May '93	1 0 0	51,584	Serbia	4, Tokenho. Bldgs.
Avala <i>Q</i>	0 34	0 34	1 0	—	—	—	19, Grey-st. N'castle	19, Grey-st. N'castle
Consett Ore <i>—</i>	6 6/4	6 6/4	1 0	5/- July '94	1 0 0	55,200	Spain	9, Queen-street-place
English Cr. Speiter <i>—</i>	34 34	34 34	1 0	2 1/2% Aug. '94	1 0 0	84,000	Lombardy	3, Lombard-court.
Fortuna <i>L</i>	1 1/2xd	1 1/2	2 0	—	1/6 Oct. 18 '95	1 0 0	25,000	Spain
Liblola <i>C</i>	3 1/2 3 1/2	3 1/2 3 1/2	5 0	2/- Sept. 27 95	5 0 0	50,400	Italy	7, Cannon-st.
Linares <i>L</i>	5 5 1/2xd	5 5 1/2	3 0	7/- Oct. 18 '95	3 0 0	14,998	Spain	6, Queen-street-place
Mason & Barry <i>C</i>	2 1/2 3	2 1/2 3	5 0	8/- May 23 '94	5 0 0	185,172	Portugal	87, Lombard-court.
Pestarena <i>G</i>	5/6 5/6	5/6 5/6	2 0	—	—	57,809	Italy	6-7, Queen-street-pl.
Fontigibus <i>SL</i>	—	—	20 0	11/6 Dec. '94	20 0 0	14,000	Coueron.	2, Cophatrig Bldgs. E.O.
Bio Tinto <i>C</i>	18 1/2 18 1/2	18 1/2 18 1/2	10 0	10/- Nov '95	10 0 0	325,000	Spain	30, St. Swithin's-lane
“ (1st Mrt. Bds)	99 99	99 99	99 99	4% Oct. 1, '95	100 0 0	236,000,000	“	120, Bishopsgt-st. Wn.
Hipanji <i>—</i>	—	—	1 0	—	0 19 0	95,000	Serbia	“
Tharsis <i>C Sul</i>	5 5 1/2	5 5 1/2	2 0	4/- Apr. 26 '95	2 0 0	625,000	Spain	Glasgow.
West Prus Pre, prel <i>—</i>	—	—	10 0	82 July '95	10 0 0	365	Germany	Walbrook Ho. E.O.
“ Prussian Pre. <i>—</i>	—	—	10 0	82 July '95	10 0 0	5,460	“	“
“ Prussian Or. <i>—</i>	—	—	10 0	82 July '95	10 0 0	14,350	“	“
Wohlfahrt <i>L</i>	—	—	1 0	3/2 Dec. '94	1 0 0	99,634	Prussia	17, Victoria-st. S.W.
“ <i>—</i>	—	—	1 0	3/2 Dec. '94	0 10 0	9,690	“	“

NORTH AMERICAN MINES.

Name	2 2/4	2 2/4	85	7 1-5d. July '95	85	160,000	Alaska	30, St. Swithin's-ln

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"THE MINING JOURNAL" SHARE LIST—(Continued)

SOUTH AND CENTRAL AMERICAN MINES

INDIAN AND ASIATIC MINES.

AFRICAN MINES

AFRICAN MINES—(Continued)

Name.	Closing Price, Oct. 18, 1895	Closing Price, Oct. 11, 1895.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Offices.	
Durban Deep. G	73 8	73 8	1 0	3/- Sep. 27 '95	2 8. d.	212,500	Rand.....	28, Leadenhall-bldg.	
Deep.	47 5	51 5	5 1/2	—	1 0 0	240,000	Klerksdorp	Winchester House, 170, Winchester-st.	
Eastleigh G	13 1/2	13 1/2	1 0	—	1 0 0	570,000	Rand.....	28, Old Jewry, E.C.	
East Rand.	8 1/2	8 1/2	9 1/2	—	—	66,000	—	30, S. Swithin's-lane.	
Evelyn G	1 1/2	1 1/2	1 0	10% Jan. '95	1 0 0	148,000	S. Africa	120, Bishopsgt. st. W.	
Exploration	41 4	43 4	4 1/2	1/- Dec. 28 '94	1 0 0	45,000	De Kaap	45-6, Leadenhall-st.	
Ferreira G	19 1/2	19 1/2	19 20	—	1 0 0	105,000	Transvaal	30, St. Swithin's-lane.	
Forbes Reef (N.W.) G	16 3/4	16 3/4	3 4	—	1 0 0	265,000	Rand.....	120, Bishopsgt. st. W.	
Geldenhuus Deep G	9 1/2	9 1/2	9 1/2	—	1 0 0	187,500	Rand.....	1, General Court, E.C.	
Geldenhuus Est. G	5 1/2	5 1/2	5 1/2	6	6/- Jy 28 '95	1 0 0	150,000	S. Africa	7, Great St. Helen's, Johannesburg.
Main Reef.	1 1/2	1 1/2	1 1/2	1/ Sep. 27 '95	1 0 0	112,750	Lydenburg	2, Drapers-gardens.	
George and May G	1 1/2	1 1/2	1 1/2	—	1 0 0	100,000	Transvaal	11, Queen Victoria-st.	
Goch G	21 1/2	21 1/2	31 1/2	—	1 0 0	15 Jy 28 '95	Rand.....	46, Old Jewry.	
Ginsberg G	1 1/2	1 1/2	1 1/2	—	1 0 0	130,000	Drieton	19, St. Swithin's-lane.	
Glencairn G	4 1/2	4 1/2	4 1/2	4 1/2	1 0 0	200,000	Transvaal	1, General Court, E.C.	
Gold Coast Devel.	7 1/2	7 1/2	7 1/2	—	1 0 0	—	1, General Court, E.C.		
Estates T. G	11 1/2	11 1/2	11 1/2	—	1 0 0	130,000	Transvaal	1, General Court, E.C.	
Gid. Fis. Deep.	10 1/2	10 1/2	11 1/2	—	1 0 0	600,000	S. Africa	2, Drapers-gardens.	
G. F. of Lydenb'rg	5 1/2	5 1/2	5 1/2	6	—	—	Lydenburg	19, St. Swithin's-lane.	
G. F. of Mashond.	9 1/2	11 1/2	5 1/2	5 1/2	1 0 0	200,000	Mashond.	2, Tokenhouse Bldgs.	
Graskop G	6 3/4	6 3/4	7 1/2	8 3/4	5/-	400,000	Lydenburg	62, Lombard-street.	
Grigualand W. L	8	8	8	8	10 0	105,700	Transvaal	Broad-st. Avenue.	
Guy Fawkes. G	1 1/2	1 1/2	3 1/2	7 1/2	1 0 0	24,000	Manica.	18, Bishopsgate st.	
Gwelo Explorat.	4 1/2	4 1/2	4 1/2	5 1/2	1 0 0	—	Matabeleland	79 1/2, Gracechurch-st.	
Harmony (Prest) G	7 1/2	8 1/2	7 1/2	8 1/2	1 0 0	260,000	—	8, Old Jewry.	
Heidelberg. Est.	4 1/2	4 1/2	4 1/2	—	1 0 0	—	Heidelberg	19, St. Swithin's-lane.	
Henderson's Trans.	3 1/2	3 1/2	3 1/2	—	1 0 0	250,000	Zoutp'nb'g	2, Tokenhouse Bldgs.	
Henry Nourse ... G	6 1/2	6 1/2	6 1/2	—	1 0 0	100,000	De Kaap	62, Lombard-street.	
Joe's Reef. G	7 1/2	7 1/2	7 1/2	—	1 0 0	57,400	—	31, Lombard-st. E.C.	
Johannesburg G. F.	11 1/2	11 1/2	11 1/2	—	1 0 0	99,537	Johannesburg	7, Lombury, Johannesburg.	
" Invest.	5 1/2	5 1/2	5 1/2	5 1/2	20% Oct. '95	1 0 0	—	8, Old Jewry.	
Johannesburg Par.	9 1/2	9 1/2	8 1/2	9 1/2	12 1/2% Nov. '93	1 0 0	21,000	Rand.....	120, Bishopsgt. st. W.
Jahilee G.	6 1/2	6 1/2	6 1/2	—	30% Jy 26 '95	1 0 0	30,000	Rand.....	19, Finsbury-circus.
Jumpers G.	7 1/2	7 1/2	7 1/2	—	1 0 0	100,000	Rand.....	8, Old Jewry, E.C.	
Kimberley D.	1 1/2 pm	1 1/2 pm	1 1/2 pm	—	1 0 0	98,672	Kimberley	15, George St., MnH	
" Rdp't.	2 1/2	3	3	3	1 0 0	125,000	—	8, Old Jewry.	
Klerksdorp.	20/ 21	21/ 21	22/ 22	10/-	1 0 0	400,000	Klerksdorp	2, Drapers-gardens.	
Kyfffontein D.	7	1	2	1	1 0 0	125,000	Jacobsdal	110, Cannon St.	
Langlaagte Est. G	6 1/2	6 1/2	6 1/2	—	1 0 0	470,000	Rand.....	120, Bishopsgt. st. W.	
Do. Royal	2 1/2	3	3	3	1 0 0	100,000	Rand.....	59, Holloway Viaduct.	
Lionsdale G.	8 1/2	8 1/2	9 1/2	9 1/2	1 0 0	115,000	Lydenburg	2, Drapers-gardens.	
Lisbon-Berlyn. G	8/8	9/8	8/8	9/8	2/6	88,233	—	85, Gracechurch-st.	
Lo Magunda.	4 1/2	5	4 1/2	5	1 0 0	120,000	—	12, Cannon-street.	
Lon. Paris Fin. & M.	2 1/2	2 1/2	2 1/2	2 1/2	1 0 0	500,000	S. Africa	5, Lombard-street.	
London & S. A. Ex.	14 1/2	15	15 1/2	16 1/2	1/-	150,000	Vlakfonta	1, Grosvenor Square.	
Lower Roodepoort	7/8	8/3	7/8	8/3	1 0 0	150,000	Rand.....	19, Finsbury-circus.	
Luisapards Vle. Est.	17 1/2	18 1/2	17 1/2	18 1/2	6% Mar. '90	1 0 0	319,003	Transvaal	8, Old Jewry, E.C.
Main Reef (New) G	12 1/2	12 1/2	12 1/2	—	1 0 0	—	—	15, George St., MnH	
Mashon. Agency.	3 1/2	3 1/2	3 1/2	3 1/2	1 0 0	100,000	Rand.....	8, Old Jewry, E.C.	
Central.	11 1/2	11 1/2	11 1/2	11 1/2	10/-	180,000	Mashond.	15, George St., MnH	
Masi Kestell.	10/ 11	11/ 11	9/10	10/6	10/-	60,000	—	15, George St., MnH	
Matabelel'd G. E.'t	5 1/2	5 1/2	5 1/2	5 1/2	10 pc Sept. 95	1 0 0	236,500	Manica.	15, George St., MnH
May Con. (New) G	3 1/2	3 1/2	3 1/2	3 1/2	5% Dec. '89	1 0 0	75,020	Matabelel'd	15, George St., MnH
Metropolitan (N) G	22 1/2	22 1/2	22 1/2	22 1/2	3/- Sep. 27 '95	1 0 0	—	15, George St., MnH	
Meyer & Charli. G	6 1/2	6 1/2	6 1/2	6 1/2	10/ Oct. 16 '95	1 0 0	100,000	Transvaal	4, Drapers-gardens.
Middelburg Cosi.	7 1/2	8 1/2	7 1/2	8 1/2	12 1/2% Mar. '90	1 0 0	82,500	Waterberg.	15, Broad-street.
Middle Vlei.	3/4	3/4	3/4	3/4	—	—	—	15, Broad-street.	
Minerva.	2 1/2	2 1/2	2 1/2	2 1/2	1 0 0	150,000	Rand.....	15, Broad-street.	
Modderfontein.	11	11	12	12	1 0 0	200,000	—	15, Broad-street.	
Montrose.	1 1/2	1 1/2	1 1/2	1 1/2	3/- Feb. '90	1 0 0	70,000	De Kaap	15, Broad-street.
Moodies G. & S. G	1 1/2	1 1/2	1 1/2	1 1/2	—	240,000	S. Africa	15, Broad-street.	
Mozambique. C	1 1/2	1 1/2	1 1/2	1 1/2	2/6 July '91	1 0 0	94,331	Namqua	34, Leadenhall-bld.
New African.	6 1/2	7 1/2	6 1/2	7 1/2	—	190,000	—	35, Hatton Garden.	
N. Belgium Land.	11 1/2	12 1/2	11 1/2	12 1/2	1 0 0	167,462	—	33, Cornhill.	
New Chimes. G	2 1/2	2 1/2	2 1/2	2 1/2	15 pc Aug. '95	1 0 0	100,000	De Kaap	8, Old Jewry.
" Clever Estate.	3 1/2	3 1/2	3 1/2	3 1/2	10% Feb. 28 '95	1 0 0	100,000	—	15, Broad-street.
Comet.	3 1/2	3 1/2	3 1/2	3 1/2	1/4 May '90	1 0 0	175,000	—	15, Broad-street.
Gordon. D	2 1/2	2 1/2	2 1/2	2 1/2	rts. Mar. 8 '95	1 0 0	240,000	Lydenburg	120, Bishopsgt. st. W.
Heriot. G	9 1/2	10	10 1/2	10 1/2	1/ Apr. 17 '95	1 0 0	255,000	Langlaagte	120, Bishopsgt. st. W.
Jager. D	9 1/2	10	10 1/2	10 1/2	5% Dec. '89	1 0 0	404,344	Grigul'd W	110, Cannon-street.
Kleinfontein G.	9 1/2	10	10 1/2	10 1/2	3/- Sep. 27 '95	1 0 0	85,750	Transvaal	94, Gresham Ho E.C.
Louis D'Or. G	1/2	1/2	1/2	1/2	10/ Oct. 16 '95	1 0 0	100,000	Transvaal	5, Calthill-building.
Kleinfontein G.	1/2	1/2	1/2	1/2	12 1/2% Mar. '90	1 0 0	82,500	Waterberg.	53, New Broad-street.
Mid'le Vlei.	3/4	3/4	3/4	3/4	—	—	—	120, Bishopsgt. st. W.	
Primrose. G	6 1/2	6 1/2	6 1/2	6 1/2	25 po. June '95	1 0 0	150,000	Rand.....	2, Draper's-gardens.
" Rietfontein G.	11	11	12	12	—	1 0 0	200,000	De Kaap	15, Gracechurch-st.
Montrose.	1 1/2	1 1/2	1 1/2	1 1/2	3/- Feb. 27 '95	1 0 0	70,000	—	15, Gracechurch-st.
" Spes Bonia. G	1 1/2	1 1/2	2 1/2	2 1/2	—	1 0 0	—	15, Gracechurch-st.	
Steyn Estate. G	1 1/2	1 1/2	2	2	1/4 May '90	1 0 0	125,000	Transvaal	15, Gracechurch-st.
" Virginia. G	2 1/2	3	2 1/2	3	1/4 May '90	1 0 0	125,000	Transvaal	15, Gracechurch-st.
Nigel. G	3 1/2	3 1/2	3 1/2	3 1/2	rts. Aug. 10 '95	1 0 0	48,335	Transvaal	15, Gracechurch-st.
" Deep. G	3 1/2	3 1/2	3 1/2	3 1/2	10% June '95	1 0 0	160,000	Transvaal	15, Gracechurch-st.
" Extension.	7 1/2	7 1/2	7 1/2	7 1/2	—	1 0 0	195,000	Transvaal	15, Gracechurch-st.
North Sheba.	6 1/2	6 1/2	6 1/2	6 1/2	—	1 0 0	200,000	Transvaal	15, Gracechurch-st.
North Sheba.	6 1/2	6 1/2	7 1/2	7 1/2	—	1 0 0	375,000	Transvaal	15, Gracechurch-st.
Oceana.	2 1/2	2 1/2	2 1/2	2 1/2	25/- Nov. '89	1 0 0	857,400	Transvaal	4, Sun Court, E.C.
" Development.	1 1/2	1 1/2	1 1/2	1 1/2	—	1 0 0	50,000	Transvaal	31, Lombard-street.
Ophir Concess.	3 1/2	4 1/2	3 1/2	4 1/2	10% Aug. 95	1 0 0	111,857	E. C. Africa	10, Moorgate-street.
Orange F.S.E. D	4 1/2	4 1/2	4 1/2	4 1/2	10% Aug. 95	1 0 0	284,000	Transvaal	8, Old Jewry.
Orton (New). G	1 1/2	2	3	3	—	1 0 0	30,000	Transvaal	15, Cannon-st., E.C.
Otto's Kopje. D	1/2	2	3/-	3/-	—	1 0 0	437,888	Transvaal	120, Bishopsgt. st. W.
Paarl Central. G	10 1/2	11 1/2	12 1/2	12 1/2	3/- Jy 11 '95	1 0 0	138,750	Transvaal	15, Broad-street.
Pardy's Mozamb.	2 1/2	2 1/2	2 1/2	2 1/2	10/-	1 0 0	—	15, Broad-street.	
Range.	10/ 15	11/ 16	10/ 16	11/ 16	10/-	1 0 0	—	15, Broad-street.	
Pigg's Peak. G	2 1/2	2 1/2	2 1/2	2 1/2	1 0 0	—	—	15, Broad-street.	
Pielades.	2	2	2	2	1 0 0	—	—	15, Broad-street.	
Potchefstroom. G	3 1/2	3 1/2	3 1/2	3 1/2	1 0 0	140,000	Transvaal	15, Broad-street.	
Princess Estate G.	3 1/2	3 1/2	3 1/2	3 1/2	1 0 0	125,000	Transvaal	15, Broad-street.	
Band Central Ore.	2 1/2	2 1/2	2 1/2	2 1/2	25 p.c. Aug. 95	1 0 0	115,000	Raud.	8, Princes-street, E.C.
Bandfontein. G	3 1/2	3 1/2	4 1/2	4 1/2	—	1 0 0	2,000,000	Transvaal	39, Holborn Viaduct.
Band Mines. G	3 1/2	3 1/2	3 1/2	3 1/2	10 p.c. Oct. '95	1 0 0	332,798	Raud.	123, Bishopsgt. st. W.
Band-Rhodesia.	1 1/2	2	1 1/2	2	—	1 0 0	25,000	Transvaal	15, Finsbury-circus.
Head's Drift. D	3 1/2	4	3 1/2	4	—	1 0 0	37,000	Transvaal	8, Old Jewry.
Rhodesia Explor. D	15 1/2	15 1/2	13	14	—	1 0 0	50,000	Transvaal	15, Finsbury-circus.
Robinson. D	3	3	2	3	—	1 0 0	350,000	Transvaal	8, Old Jewry.
" Randtn. G	10 1/2	10 1/2	10 1/2	10 1/2	6/- Jy 28 '95	5 0 0	550,000	Transvaal	15, Finsbury-circus.
Roodepoort Deep.	4 1/2	4 1/2	4 1/2	4 1/2	—	1 0 0	517,000	Transvaal	8, Old Jewry.
Roodepoort Un. G	8 1/2	7 1/2	7 1/2	7 1/2	5/- Aug 14 '95	1 0 0	130,000	Transvaal	15, Broad-street.
Rose Deep.	5 1/2	6 1/2	6 1/2	6 1/2	—	1 0 0	300,000	Transvaal	15, Broad-street.
Rosenblock Te'Rif's.	1/2	1	1	1	—	1 0 0	60,000	Transvaal	15, Broad-street.
Rothes Bay.	15 1/2	15 1/2	15 1/2	15 1/2	—	1 0 0	—	15, Broad-street.	
St. Angelo.	5 1/2	5 1/2	5 1/2	5 1/2	—	1 0 0	175,000	Transvaal	15, Broad-street.
Salisbury Gold.	1/2	1/2	1/2	1/2	—	1 0 0	95,000	Transvaal	15, Broad-street.
Sheba. G	12 1/2	12 1/2	2	2	—	1 0 0	850,000	Transvaal	15, Broad-street.
Slati. G	9 1/2	10 1/2	7 1/2	7 1/2	1/- Sep 22 '94	1 0 0	113,701	Transvaal	15, Broad-street.
Simmer & Jack. G	25 2/4	26 2/4	25 2/4	25 2/4	2/ Aug 14 '95	1 0 0	250,000	Transvaal	15, Broad-street.
S. A. Gold Trust.	10 1/2	11	11 1/2	11 1/2	5/- Jun 12 '95	1 0 0	250,000	Transvaal	15, Broad-street.
Southern Goldm. G	4 1/2	5	4 1/2	5	1 0 0	120,000	Transvaal	15, Broad-street.	
" Land.	15	15	15	15	—	1 0 0	120,000	Transvaal	15, Broad-street.
South West Rand.	1	1 1/2	1 1/2	1 1/2	—	1 0 0	158,000	Transvaal	15, Broad-street.
Spitkopp (New) G	1 1/2	1 1/2	1 1/2	1 1/2	—	1 0 0	99,070	Transvaal	15, Broad-street.
Stanshope. G	1 1/2	1 1/2	1 1/2	1 1/2	2/- Jy 11 '95	1 0 0	34,000	Transvaal	15, Broad-street.

THE COLONIAL FINANCE CORPORATION (LIMITED), and the WEST AUSTRALIAN PIONEERS (LIMITED) invite Subscriptions for the Shares of

HANNAN'S PROPRIETARY DEVELOPMENT COMPANY (LIMITED).

CAPITAL . . . £500,000.

In 500,000 Shares of £1 each, of which 270,000 Shares will be issued to the Vendors in part payment of the purchase-money. 100,000 Shares are appropriated for working capital, of which 20,000 are reserved for future issue, as the Board may decide.

There are now offered for subscription 210,000 Shares of £1 each, payable as follows—viz., 2s. 6d. per share on Application, 2s. 6d. per Share on Allotment, 5s. per Share on November 14, 5s. per Share on December 14, 5s. per Share on January 14, 1896.

DIRECTORS.

THE MOST HON. THE MARQUESS OF TWEEDDALE (Chairman) 6, Hill Street, W.

SIR ELLIS ASHMEAD BARTLETT, M.P., 6, Grosvenor Street, W.

COLONEL R. PARRY NISBET, C.I.E., 19, Beaufort Gardens, S.W.

CHARLES CARYLL BAKER, Esq., F.C.A., 1, Gresham Buildings, E.C.

W. P. FORBES, Esq., 5, New Bridge Street, E.C.

W. G. BROOKMAN, Esq. (of Hannan's, Western Australia), 9, St. Mildred's Court, E.C.

HERBERT MOIR, Esq. (Managing Director), 139, Cannon Street, E.C.

BANKERS.—The National Provincial Bank of England (Limited), 112, Bishopsgate Street, E.C.; the Commercial Bank of Scotland (Limited), 62, Lombard Street, E.C.

SOLICITORS.—Messrs. Ashurst, Morris, Clegg, and Co., 17, Throgmorton Avenue, E.C.

BROKERS.—Messrs. Billett, Campbell, and Grenfell, 26, Austin-friars, E.C.; Messrs. Turle and De Jongh, 11, Angel Court, E.C.

AUDITORS.—Messrs. Cash, Stone, and Co., 90, Cannon Street, E.C.

MINING ENGINEER.—George Gray, Esq., of Perth, and Hannan's (Kalgoorlie), Western Australia.

SECRETARY.—H. Milner Willis, Esq.

OFFICES.—139, Cannon Street, E.C., and St. George's Terrace, Perth, W.A.

PROSPECTUS.

This Company has been formed for the purpose of acquiring 24 leases of about 500 acres of gold mining claims, running across the vein formation of the now famous Hannan's Goldfields, Western Australia.

The extensive properties, coloured pink on the plan, have, after careful investigation, been selected by Mr. George Gray, the Mining Engineer and Representative of the Colonial Finance Corporation (Limited), who is now resident in Western Australia. Mr. Gray, in a cable dated June 22, 1895, describes the Hannan's District as the richest in Western Australia.

It is claimed by Mr. Gray that the following well-known lodes run through the property:—

1. Ivanhoe Main Lode.

2. Great Boulder Main Lode.

3. Lake View Main Lode.

4. Australia Main Lode.

5 and 6. Royal Mint West and Australia East Main Lode.

7. Hannan's Brownhill and Royal Mint Lode.

8. Iron King Main Lode.

9. Brownhill Consols and Medindie Hill Lode.

10. Medindie Hill East Main Lode.

11 and 12. Parallel Lodes & Boulder and Ivanhoe.

13. Parallel Lodes to Medindie and Iron Monarch.

14. Perseverance and Golden Link Main Lode.

As the property is developed by the Company, it is intention of the board to organise subsidiary Mining Companies, for which there is ample acreage.

The Board are of opinion that there have assured a group of Mines of high merit, and particular attention is drawn to the following Reports, which were made on the spot under date of September 28, 1895, by the following exports, viz.,—Mr. George Gray, Captain Oats, of the Associated Gold Mines of Western Australia, and Mr. John Harvey, Mining Engineer, Cossigardine.

The whole of the Reports were cabled from Hannan's (Kalgoorlie).

REPORTS.

Captain Oats reports by cable as follows, viz.,—

"Kalgoorlie, Western Australia,

"September 28, 1895.

"Hannan's Proprietary Company (1) consider the most valuable area of mining ground in Western Australia. Their rich lode formations here are very well known. They require no geological or other description from myself. During five years' experience and management of West Australian mines I have not seen so uniformly rich gold-bearing vein formations. The selection of the group of mines, combined with present developments, suggests great practical knowledge and experience of the required conditions for successful gold mining. I strongly recommend this property as an exceedingly profitable investment."—CAPTAIN OATS, Manager Associated Mines.

Mr. John Harvey reports by cable as follows, viz.,—

"Kalgoorlie, Western Australia,

"September 28, 1895.

"Hannan's Proprietary Company possesses 24 Mines very favourably situated in the Hannan's District. (It is proved) that the district is highly auriferous (and) to extend seven miles (in) length and two (in) width. This belt is composed of diorites and metamorphic rocks, which are traversed by parallel lode formations composed (of) veins of iron ore, chlorite and schists, which, when stratified, are very rich (and) extensive gold-bearing formations that have been proved to go down at depth and (to be) continuous in strike. (A) very great majority (of) the Company's Mines have been selected so as to have traversing through them very well-known lodes, such as Mariana, Hannan's Golden Gully, Brownhill Consols, proved lying to the north, and Boulder, Lake View, Brownhill, Hainsault, Crossus, proved lying to the south. The richness of the ore and extent of these lodes you may gauge when Boulder, Lake View, and Brownhill Mines have driven in upon the vein for 225 ft., on different lodes in continuous rich ore, (and) in which the vein improves as it goes down. Your Lady Forrest, besides being on (the) true course of Mariana lode, has a thousand tons of cement deposit on the surface, which must be a very profitable undertaking when crushed. The rich alluvial which has evidently been used by denudation proves that some oceanic channel traverses through (the) ground, and workings are being vigorously prosecuted. The Treasure groups are on Eastern continuation of Mariana or Mount Gidion range, and the pay streak continues rich alluvial. The geological formation is similar on Western Slope, excepting that a strong well-defined vein of very promising quartz traverses Hidden Treasure, which at 100 ft. shows pieces of rock containing visible gold. The Brownhill Consols (and) Golden Gully Lodes have been cut, and nothing but depth will be required (to) make this group most valuable. The centre, or Oates' group, on western fall (of) large iron hills, and for an alternate band of iron ore and schists. Present features induce vigorous developments. A large gold-bearing formation was struck on Oates, and a shaft in other mines are of a highly favourable character for a valuable gold-bearing deposit. The westerly group comprises (a) series (of) mines that for position shows careful judgment in selection, and present developments prove judgment correct. The geological formation being identical with Boulder mines (and) through this group the Lake View, Australia, and Hainsault lodes will pass. Hainsault lode was struck on Ironsides (property) (and) (the) Lake View lode in Queen of the West, showing free gold. Constant prospecting should be done to open up other valuable lodes. Oates East from position is, undoubtedly, of great value, being only 15 chains (from) the S.E. boundary of Brownhill and in direct strike for its rich continuous lode. The prospecting now being done may disclose Hainsault lode any time on the S.E. boundary. Oatesone prove Bank (of) England lode in property, Lake View East, another valuable property, from situation and recent developments. Four chains from the boundary (of) Roverscross Mine (we have) struck rich ore in depth. This reef is cut in length and character of ore is similar (to) that milled by Lake View. By the foregoing you will see Hannan's Proprietary Company possesses a combination of mines that from position, area, and developments are of great value, and judging from marked improvements of ore values as depth is attained on this field, crosscutting and vigorous operations will open up a number of highly profitable investment mines."—JOHN HARVEY, Mining Engineer.

Mr. George Gray reports by cable as follows, viz.,—

"The property of Hannan's Proprietary Company consists of the following claims:—14 Mines—Oats East, Lake View East, Golden Pike, Ironsides, Ironsides North, Queen of the West, Norwood, Gilberton, Oritava, South Oritava, Golden Chain, Adelaide, Lady Forrest, Golden Point, Kalgoorlie, Hidden Treasure, Hidden Treasure South, Hidden Treasure Extended, Hidden Treasure Consols, Golden Gully North, Great Comstock, Albion, Omega (and) Successful, comprising practically unbroken area (of) about 500 acres running obliquely across entire rich lode formations, containing Great Boulder Proprietary, Lake View, Hannan's Brownhill, (and) Mariana Lodes, etc., all these rich formations have been proved due north and south of the above Mines. The geological formation (of) Hannan's has been often described that (it) shall confine myself for the present (to) physical conditions and future developments of the property, Oats East, Lake View East, (are) the most easterly of property; former carries Brownhill Lode, which has been proved to a depth of 150 feet. Lode has been drifted 700 feet of exceedingly rich ore throughout. Brownhill Consols Lode

strikes through this mine. Two shafts now being sunk, and nearing 100 feet level, where formation will be crosscut. Lode shows up very well, in certain pits carrying good gold. This will prove one of the best Mines of the camp. Lake View East, on the east of Lake View, on the southern boundary by part of (the) Associated (Mines) blocks. This property contains two lode formations carrying gold. Gold-bearing formation identical with Lake View and Boulder. Believe it to be exceedingly valuable on account of situation and developments. Golden Pikes to the west, Boulder and Ivanhoe Lodes traverse Queen of the West, Ironsides, Ironsides North, Gilberton, Albion, Norwood, Great Comstock, Omega, form westerly group. Boulder, Lake View, Westralia, Birthday, Hainsault Lodes must traverse each (of) this group. Double compartment shaft being sunk. Developments most of the shafts very good, large lode formations carrying good gold. We shall commence to drive due East and West 100 ft. level. It is impossible (to) foretell what crosscut due East and West will prove from this great formation. Consider this group of the greatest possible value. Lady Forrest, Golden Point, Kalgoorlie, Oritava, Oritava South, Golden Chain, Adelaide, and Successful group of Mines constitute Central. Lady Forrest has two large lode formations, one being continuity of the rich Mariana Lode. The run of the lode is the entire length of the Mine. Both formations carry gold, in fact the richest alluvial gold of the field was obtained (on) this ground. The entire surface is covered with a cement capping. Will pay you to reduce. Have advertised for tenders to sink a shaft, three compartments, 300 yards. Through this group Hannan's Brownhill, Hannan's Reward, Australia lodes strike. Recent developments prove this group great value. Hidden Treasure, Hidden Treasure Consols, Hidden Treasure South, Hidden Treasure Extended, Golden Gully, North-Eastern Group, through this Mount Charlotte, Brownhill Consols, Golden Gully lodes run. Developments proving group valuable. Development of the mine quite satisfactory. All shafts in good ground showing gold. This aggregation of mines constitutes a great property in association and value (in) present conditions. Crosscut from 100 feet level should cut every known lode in camp. Judging from recent developments and values, proved due north and south of these mines, Hannan's Proprietary Development Company is one of the largest, most valuable mining properties in Western Australia. Titles have been examined and are in perfect order."—GEORGE GRAY, Mining Manager.

The following table of the leading Mines on Hannan's Gold Field shows their acreage, the present market value of their shares, and the respective prices per acre as shown by their market valuation.

	Number of Shares Authorized.	Nominal value of Shares.	Price per Acre as represented by their present Market Value.	Number of Acres.
Hannan's Brownhill	70,000	£ 2	£ 35,000	11
Kalgurli (Birthday)	100,709	1	15,666	19
Hannan's Star	80,000	1	9,444	16
Great Boulder	175,003	1	11,893	17
Hannan's Reward	70,003	1	9,074	15
Associated Gold Mines	375,000	1	5,074	154
Lake View	50,000	10/-	2	3,333
Hannan's Proprietary Development Company	500,000	1	Offered ... About ...	1,000

Mr. W. G. Brookman, who has joined the board, is intimately acquainted with the whole of Hannan's Field, and is the discoverer of most of the leading Mines of this district, among which are the Great Boulder, the Lake View, the Royal Mint, the Iron King, the Associated Gold Mines of Western Australia, and many other leading properties.

The purchase price to be paid for the properties has been fixed by the Vendors, who are the Promoters of the Company, at £130,000 in cash, and £270,000 in fully-paid Shares.

The following contracts have been entered into:—(1) a contract, dated September 8, 1895, made between the Hannan's Proprietary Mining Company (Incorporated in Western Australia) and the Colonial Finance Corporation (Limited) for the sale to the latter of the property to be acquired by this Company, and (2) a contract, dated October 15, 1895, made between the Colonial Finance Corporation (Limited) and this Company, for the resale of the said property to this Company at a profit.

The Vendors under the latter contract have fixed the purchase price as above-mentioned, and agree to pay all preliminary expenses attending the formation of the Company up to allotment.

The Memorandum and Articles of Association and the above Contracts may be seen at the Offices of the Solicitors of the Company.

Applications for Shares must be made on the accompanying form, and forwarded to the Bankers of the Company, with the amount of the deposit. If no allotment is made the deposit will be returned in full, and where the number of shares allotted is less than that applied the balance will be applied towards the payment due on allotment, and any excess returned to the applicant.

Prospectuses and Forms of Application for Shares can be obtained from the Bankers, Solicitors, and Brokers, and at the Offices of the Company.

139, Cannon Street, London, E.C.

October 15, 1895.

CORRESPONDENCE.

We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.

ASSAYING AT THE ROYAL SCHOOL OF MINES, FREIBERG.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—In the September 28th edition of your Journal was published an article by Mr. John Ball, Wh.Sc., A.R.S.M., regarding the fittings of the assaying laboratory at the Freiberg Academy of Mines, and also regarding the methods of instruction and manner of carrying out the various assays here taught. The article contained many inaccuracies, of which the writer of this article only seeks to correct the grossest.

In the first place, Mr. Ball was in Freiberg but ten months; he was inscribed as a hospital student not as a regular student, and as such elected various practical courses, among others assaying, to which he was a regular attendant. Mr. Ball came to Freiberg without any knowledge of the German language, and even at the time of his departure his German was still very faulty; on this account he was necessarily prevented from electing the lectures on assaying, and these lectures are a necessary part of the course.

Mr. Ball states, first, that the appliances of the laboratory are not sufficient. All the appliances are simple, yet not in any degree antiquated; they fully answer the purpose, so much so that with their assistance any and all assays can be made. The three large muffle furnaces hold easily 25 crucifiers, not only 8 to 10, as Mr. Ball stated. Besides these three large muffle furnaces there are two smaller ones, heated by gas and charcoal, which Mr. Ball failed to mention in his enumeration of the appliances.

True it is that there are generally four students working together at each of the large furnaces; at the smaller furnaces there are never more than two students together. This working together of several students at one furnace Mr. Ball considers especially blameworthy; but he failed to mention that every student is allowed to make, from beginning to end, his own assays. During the term this privilege is often taken advantage of, especially by Englishmen or Americans, who have ores sent to them from abroad.

Furthermore, Mr. Ball finds the method of instruction in vogue here not proper. To this it may be said that Freiberg has always been successful in her method of teaching, as many an Englishman and American can testify.

Mr. Ball also finds fault because students are not made to sample their own ore. Sampling is fully described in the lecture on assaying; and not alone in this lecture, but also in nearly all lectures belonging to the metallurgical course. Furthermore, all students have sufficient opportunity during the practical course at the smelter to fully learn sampling.

Mr. Ball does not seem aware of the fact that the practical course in assaying is but a part of a fully organised course of instruction.

The same fault is found that students are given the standard

solutions already prepared for use. The preparing of standard solutions is fully taught in the "Prakticum in Volumetric Analysis," and also in the assaying lectures the preparing and testing of standard solutions are fully described.

In his *résumé* Mr. Ball expresses his astonishment that scorification assays are so often given the preference over crucible assays, for gold and silver. Had Mr. Ball heard the lectures on assaying he would have heard the reason for this preference. Scorification assays are undoubtedly better for ones which contain sulphur, arsenic and antimony, and they are more generally applicable. Crucible assays are also made in Freiberg when the ores or substances are suitable. Regarding the other assays mentioned it may be remarked that the iodide method for copper is described in the lectures, so also the English copper and the Cornish tin assay. It is doubtful if the two last mentioned are in practical use for the determination of percentages of copper and tin at the present time.—Yours very truly,

F. KOLBECK, D.Phil.
Assistant Instructor of Assaying.

Freiberg, Oct. 14.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—In the September 28th issue of your Journal, there was published a paper on "Assaying at the Royal School of Mines, Freiberg," by John Ball, Wh.Sc., A.R.S.M.

The paper contained many incorrect statements, and it would be an injustice to the Freiberg Academy, and to the English and American students studying here, to allow the statements to remain uncorrected. Aside from the inaccuracy, the paper was very unjust, for in it Mr. Ball criticised only what displeased him; he neglected to notice many of the good points of the assaying course.

Mr. Ball mentioned, in the first place, that the course in assaying lasted 10 months, occupying one forenoon or afternoon in each week. That is correct, as far as it goes, but there is also a course of lectures in connection with the practical part. In the lectures much is given which it is impossible to give in the "praktikum." Every student who takes the course in assaying, is allowed to bring as many ores and samples as he desires, and can, any day in the week, make his own assays. The assistant in the metallurgical laboratory is always in attendance, and from personal knowledge the writers know he is very willing to give any and all assistance. The one forenoon or afternoon Mr. Ball mentions, is that on which the Professor is with the class as a class; on this day the assay or assays which were the subject of the weekly lecture are carried out.

The appliances in the laboratory are, perhaps, limited, but they have always been found sufficient. The classes are divided, each division consisting of not more than eight students—usually there are less. There are three large muffle furnaces, each of which is capable of holding 25 to 30 crucifiers; there are two wind furnaces, in each of which 10 to 12 crucible assays can be made at one time; besides these, there are smaller portable gas and charcoal furnaces.

The sweeping of the floor is insisted upon (this, it might be mentioned, has nothing to do with the efficiency of the instruction), but not with "mathematical precision and in strict sequence." Neatness in work, as well as correctness, is taught. The furnaces are "Freiburger Ofen," and are fired with coals; students must fire their own furnaces, and in doing so these inexperienced

NEW ISSUES.

HANNAN'S PROPRIETARY DEVELOPMENT COMPANY (LIMITED).

This company has been issued with a capital of £500,000, in 51 shares, for the purpose of acquiring 24 leases of about 500 acres of mining claims, running across the vein formation of Hannan's Gold Field, Western Australia. Cabled reports on the properties have been made by three experts, one of whom—Captain Oats, manager of the Associated Gold Mines of Western Australia—states "That during five years' experience and management in the colony he has not seen so uniformly rich gold-bearing vein formation as that occurring in the area covered by the leases to be acquired." Mr. John Harvey says "That Hannan's Proprietary Company possesses 24 mines very favourably situated in the Hannan's district. (It is proved) that the district is highly auriferous (and) to extend seven miles (in) length and two (in) width. This belt is composed of diorites and metamorphic rocks, which are traversed by parallel lode formations composed (of) veins of iron ore, chlorite, and schists, which, when stratified, are very rich (and) extensive gold-bearing formations that have been proved to go down at depth and (to be) continuous in strike. (A) very great majority (of) the company's mines have been selected so as to have traversing through them very well-known lodes, such as Maritana, Hannan's, Golden Gully, Brownhill Consols, proved lying to the north, and Boulder, Lake View, Brownhill, Hainault, Crescens, proved lying to the south. The richness of the ore and extent of these lodes you may gauge when Boulder, Lake View, and Brownhill Mines have been driven in upon the vein for 625 feet on different lodes in continuous rich ore (and) in which the vein improves as it goes down." Mr. George Gray says "That the following well-known lodes run through the property:—1. Ivanhoe Main lode.—2. Great Boulder Main lode.—3. Lake View Main lode.—4. Australia Main lode.—5 and 6. Royal Mint West and Australia East Main lode.—7. Hannan's Brownhill and Royal Mint lode.—8. Iron King Main lode.—9. Brownhill Consols and Medindie Hill lode.—10. Medindie Hill East Main lode.—11 and 12. Parallel lodes to Boulder and Ivanhoe.—13. Parallel lodes to Medindie and Iron Monarch.—14. Perseverance and Golden Link Main lode."

THE FORREST KING OF COOLGARDIE (LIMITED).

This company has been formed with a small capital of £75,000, in 75,000 shares of £1 each, to acquire and work the Lady Forrest Gold Mine, situate in the Coolgardie Goldfield, and adjoining the Lady Loch Gold Mine. The property is held under gold mining lease No. 284 of the Coolgardie Goldfield, and consists of about 12 acres. The lease is granted direct from the Government of Western Australia on the usual conditions, and is now vested in the Lady Loch Gold Mine (Limited), having, with the sanction of the Minister of Mines, been transferred to that company in April last. In the opinion of the directors of the Lady Loch Gold Mine (Limited), the time has now come when operations at the Lady Forrest Mine should be pushed on vigorously, and machinery erected, and as this course involves considerable capital outlay, it has, after consideration, been thought advisable to incorporate the Lady Forrest Mine as a separate undertaking. The purchase consideration for the mine has been fixed by the Lady Loch Gold Mine (Limited) at £45,000, to be settled by the allotment to the vendor company of 45,000 fully paid-up shares, and, in addition, the vendor company is to receive in cash £7500, being the estimated amount of the money expended in the acquisition, development, and working of the mine. It is now proposed to issue 20,000 shares for the purpose of providing for the payment of the above-mentioned sum of £7500, and the expenses of the formation of the company, and for the necessary working capital. The remaining 10,000 shares will be reserved for future issue, if and when required for the further extension and development of the property and undertaking. Mr. Graham King, Sir E. T. Gourley, and Mr. J. Russell Clipperton, who are directors of this company, are also directors of and shareholders in the vendor company. Lord Douglas of Hawick, who is a director of this company, is also a shareholder in the vendor company. Reference to our advertisement pages will acquaint reader with the progress of the mine, and with the reports regularly issued by Mr. R. McCracken, the mine manager.

—A large South African firm in Warrford-court have acquired an important interest in the shares of the EAST NIGEL GOLD MINING COMPANY.

REPORTS FROM THE MINES.

BRITISH MINES.

SOUTH CONDURROW.—The lode in the 40 end east, has a strong and kindly appearance; it is now worth £8 per fathom. The stopes in the back behind the end is worth £8 per fathom. Three stopes in the back of the 48 east are worth £9 per fathom each. The lode in the rise in the back of the 50 east looks promising to improve, it now yields tinstones that will pay to put through the stamp. The stope in the back of the 60 east is worth £8 per fathom. (Signed) Wm. Rich.

WEST KIFTON.—John Williams, Josl Hooper, October 17: The 94 fathom level driving west the lode is small, producing a little tin but not to value, the 95 fathom level driving west the lode is about 2 feet wide, and worth for £5 per fathom. The rise in back of 84 fathom level is worth £10 per fathom. The 72 fathom level driving west the lode is worth £3 per fathom, the 60 fathom level driving west the lode is about 3 feet wide, and worth for £12 per fathom. Our stopes and tribute pitches continue to yield the usual quantity of tin.—8th section. The 60 fathom level driving east the lode is worth £10 per fathom. The 60 fathom level driving west the lode is worth £2 per fathom. The 50 fathom level driving east the lode is worth £10 per fathom. The 55 fathom level driving west the lode is worth £7 per fathom. We hope to communicate Thomas's shaft with the 60 fathom level in about two months.

PENSTREFAEN.—Mid-monthly report: Ends: The 46 east on No. 1 lode carries a small branch on either wall, averaging 20 centimetres in width, but there is not sufficient ore to value. The 55 east on No. 1 lode has been temporarily suspended, and an end started east on a branch about 20 metres distant from the present end, probably that on which the 70 end was driven after passing through the ore shoot. The 70 west on No. 1 lode has now come into the first part of the same lode, and will probably be suspended at the end of the present month. —Crosscut: A small branch of quartz marking a little pyrites has been passed through in the 70 north, and the ground became more favourable for driving. No change has occurred in the 90 south.—Aquatics: Since last reported on.—Stopes: These continue to produce their usual quantity and quality of ore.—Stabilo Mine: Except that a little water is issuing from the end of the lode is being met with. From 2 to 3 tons of 12 dwts. ore are being saved per fathom driven. Owing to the heavy rains that prevailed during the early part of last week the water has risen about 1 metre in the Quarries veins, and will again be reformed by the end of present week.—Pozzona mine. Very heavy rains having been experienced during the past 10 days the water rose and reached its former level. All the machinery is working satisfactorily.—(Signed) W. Hanwood Trelease, T. H. Messa, October 15.

COLONIAL, INDIAN, AND FOREIGN MINES.

ALAMILLOS.—Mine report dated October 9: The lode in the 85 fathom level driving west of Taylor's engine shaft has a promising appearance, but is not very productive. Its present value is estimated at 1/2 ton per fathom. In the 40 west of Santa Agueda's shaft, worth 1 1/2 ton per fathom, we have commenced driving north to communicate with Andre's veins which is on a stronger lode. In the 100 west of Taylor's engine shaft the men are again driving on the north part of this lode, which contains stones of ore. The lode in 100 east of Judd's engine shaft has further improved, and is now valued at 1/2 ton per fathom. Andre's veins sinking below the 20 fathom level valued at 3 tons per fathom, is now down to the 40 fathom level, and will be communicated with the same by a short crosscut. Sanz's veins sinking below the 60 fathom level the 0.16 is regular and well-defined, and is estimated at 1/2 ton per fathom. The stopes continue to yield well. Surface works are kept very regularly, and the machinery is in good working condition. Estimated raisings for October 250 tons. The tributes returned 45% tons of mineral in the past month.

BIG BLOW.—The following fortnightly report dated September 15 has been received from the mine manager, Mr. W. M. Vivian: I have to report that for the past fortnight we have been engaged in erecting the main battery, and have completed the fixing of the winding engine at the water shaft; also have fixed the saw bench and engines for the same. By to-morrow the building of the boiler for steaming the foregoing will be completed, as also will be the fixing of the steam pump for forcing the water from the water shaft to the main battery site. I am asking for tenders for the deepening of the water shaft, but as most of the other companies on the field are asking tenders for the same work, there seems to be a dearth of this class of contractors at present. Rather than wait, however, I shall put some of our present staff of men on the work as soon as we are ready.

BAYLEY'S WEST EXTENDED.—The company's manager at Coolgardie, reports under date September 29, as follows:—No. 1 shaft south down on course of lode during the week, we have been breaking some good stone from the reef. With one shot on Wednesday last I estimate we got 50 ounces of gold out of about 2 cwt. of stone. I have one specimen about the size of a small coconut containing fully 15 ounces of gold alone, also several smaller ones containing from 1 ounce of gold downwards to a few grains. We have now about 25 tons of stone broken ready for the mill, and the last lot of stone broken down has improved the quality of it, and I think the stone will average over 5 ounces to the ton.

EARLY NIGEL.—Advices from South Africa state that the same reef which passes through the adjoining Marivale Company has been thoroughly proved in this property.

FORTUNA.—Report, dated October 9.—Canada Incosa Mine. In the 110 fathom level driving west of San Pedro's shaft the lode is regular and well defined. Juantito's veins, sinking below the 107 fathom level, is going down through a strong lode, which turns out good stones of ore, valued at 1/2 ton per fathom.—Los Salido's Mine. In the 212 fathom level driving east of Taylor's engine shaft the men continue to make good progress. The lode in the 300 east is small and unproductive. Julian's veins, sinking below the 200 fathom level, has slightly fallen off in value, the lode being now estimated at 1/2 ton per fathom. During the past month the stopes underwent little change. The works at surface are kept on with great regularity, and the machinery is in good working order. Estimated raisings for October 225 tons. The tributes returns amounted to 42 tons of mineral in the past month.

GREAT BOULDER.—Extract from letter received from manager, Mr. Z Lane, dated September 10:—I have been offered £10,000 for our tailings, but as I reckon I can get very much more profit than that out of it, I intend to go on treating them ourselves as soon as the plant now being erected is complete, and it should be finished at the end of this month.

HANNANS (SIR JOHN FORREST).—The first batch of letters of allotment to over 300 shareholders have now been posted. The balance will be issued as soon as possible, the issue having been very freely subscribed for. The directors issue the following confirmatory report, which has been obtained since the publication of the prospectus:—London, October 12: To the directors Sir John Forrest Gold Mines (Limited), London.—Dear Sirs.—We are intimately acquainted with your leases Nos. 51 and 178, which are now known as the Sir John Forrest Gold Mines (Limited). We consider the property to be a very valuable one, and feel convinced that a large lode formation runs through the leases, besides those smaller reefs which are known to exist on the property from which good gold has been obtained. Whilst concurring fully in Mr. Turner's report, we should point out that he is incorrectly described in your prospectus as the present manager of the Hannan's Napier Gold Mining Company (Limited). It is within our knowledge that, prior to the acquisition of that company's property, he was associated in the management of the property with Mr. N. N. Deguine.—Yours faithfully (signed), Colin J. McCulloch and Co., mining agents and engineers, Coolgardie and London.

LINARES LEAD.—Mine report dated October 9: Pozo Ancho Mine, Peñis, engine shaft: In the 230 fathom level driving south the men continue to make excellent progress, though the ground is hard. The lode in the 200 west is large, and contains stone of ore. In the 155 west the lode is rather small, but regular and well defined, and is valued at 1/2 ton per fathom. The lode in the 173 west of Peñis's crosscut is large and open, and produces good lumps of ore estimated at 1 ton per fathom. The stopes continue to yield well. Surface works are kept on very regularly, and the machinery is in good working order. Estimated raisings for October 200 tons. The tributes returned 126 tons of mineral in the past month.—Los Quijentos Mine. Taylor's engine shaft: In the 155 east the ground is easy for driving through, and the lode is letting out a lot of water. The lode in the 165 east is large and of promising appearance, and is valued at 1 ton per fathom. In the 155 east the lode is chiefly composed of carbonate of lime, and contains a little lead. The lode in the 130 east contains some spots of ore, but not sufficient to value. Taylor's engine shaft, sinking below the 185 fathom level. We have commenced the sinking of this shaft, and hope to get it down to the 200 fathom level speedily.—Agapitos veins sinking below the 165 fathom level. The lode has slightly declined in value. It is now estimated at 1/2 ton per fathom. Estimated raisings for October 150 tons. The tributes returns amounted to 31 1/2 tons of mineral in the past month.

LION (Mozambique).—Report of the superintendent engineer, Mr. Nines, for the month of August: No. 1 drive. The crosscut east has advanced 22 feet, total measurement 210 feet. No. 2 drive has advanced 12 feet, total measurement 280 feet. No. 3 drive has been driven 35 feet. As I anticipated we have struck a body of ore here. The reef is about 3 feet in width; we have gone through it, and I am pushing on to the main reef.

SALISBURY-MURCHISON.—The following is a report upon the company's mines for fortnight ending September 5:—Tasmania, Continuing stoning about 30 tons of ore at grass. Gold to be seen in stone.—Agamemnon, Still stoning about 25 tons of ore at grass, showing good gold.—North Agamemnon. Shaft near eastern boundary as reported at the end of last report, struck lode at 37 feet. Have since continued sinking underlay a further distance of 16 feet, making total of 53 feet. Lode formation 3 feet wide, mixed with quartz. Commenced new shaft about centre of lease on course of lode. Sunk 14 feet for fortnight, and struck lode, but not yet through it.—Salisbury. Northern shaft sunk 17 feet for fortnight, making total 45 feet. Lode about 3 feet wide, composed of quartz and mullrock, but showing gold throughout.—Southern shaft. Sunk 9 feet for fortnight, making total 31 feet. Lode about 3 feet wide.—Huntington. Sunk 20 feet for fortnight, making total 27 feet. Struck formation of quartz leaders intermixed with mullrock, but no defined lode. Not yet through formation.—(Signed) J. Harvey.

TIGER (Mass. Kress).—Report from the superintendent engineer, Mr. Nines, for the month of August:—Drive No. 1 has advanced 53 feet; total measurement, 218 feet. There is a change taking place in the ground here. Drive No. 2 has advanced 37 feet; total measurement, 60 feet. We are driving on the leader, which is increasing in size and richness.

WENTWORTH EXTENSION.—Report dated September 7: Carroll's shaft No. 2 sunk 9 feet during week, total depth 147 feet; formation a blocky diorite.

COLON GOLD.—The secretary of the Colon Gold Mines (Limited) reports that the litigation in connection with the arbitration continues to be pushed on at Bogota, but that owing to the block in legal and other official business ensuing on the late revolution no decision has yet been obtained. The directors, however, are in negotiation for the lease of a mine in another State in Colombia free from any difficulty as to river pollution, and the report of the company's superintendent on the property has been invited. Should the report be favourable the board expect to be able to mine the new property at a profit and with small cost during the suspension of the company's mines in Tolima, and later on to work both properties concurrently.

WALDON'S FIND.—The directors of Waldon's Find Gold Mines (Limited) are in receipt of the following report, dated August 26, from Mr. A. G. Adam, the manager of the mine:—West reef. This shaft is down 90 feet following the reef, and from surface to present bottom averages 2 feet in thickness. There is 45 to 50 tons of this stone at grass, which will go not less than 4 ounces to the ton. The reef can be traced from the south boundary to the north boundary. It carries good gold where tried with several rich leaders running in, which increase the volume of stone or I should say body. There is nothing phenomenal as yet found, but the stone is torned here as first-class battery stone by some of our best mine managers; Mr. Woolcock, for example, manager of Kanowna, the White Feather United, and the Golden Cement. The latter has just been purchased for flotation in London.—Centre reef. On this reef there is a vertical shaft 60 feet from cap of reef which is impregnated with fine and free gold, it can also be traced from south boundary to north, and wherever tried has shown a splendid prospect. By continuing the sinking it will make by timbering a good water shaft, and also drives can be put in east at 60 and 100 feet to cut the lode. I may here mention that this and the previous reef dips to the east.—Eastern reef. I am at present engaged opening it up, have two sets of timber in, and a double windlass erected. Two shifts of men working, the one from 8 a.m. until 4 p.m., the other till 12 midnight. We are down 16 feet on a 2 feet body of ironstone quartz, very hard to work. Without the slightest exaggeration, if any average assay is taken it will go 10 ounces to the ton, but picked stone will go 60 ounces.—Surface. The surface between reefs and about 5 to 6 acres of the north part of lease at a depth of 4 feet can go through battery, and will average 3 ounces per load. I have myself tested the surface through a dry blower and dishes, and, therefore, I am perfectly confident of the result.

CRESCENS (Matabele).—The managing director's report as follows: The pannings from each shaft of the Anterior workings at 100 feet are exceptionally good, and carry a lot of coarse gold in pan; we continue to follow the vein down. We now hold altogether about 1500 claims (about 90 separate blocks); upon almost the whole of these we have old gold workings. Some are extensions of properties, turning out well, and a few on virgin reefs from which good surface pannings have been taken. As all our claims are pegged under "Pioneer licenses," we have ample time in which to get protection 12 months from registration. The survey of our land—62 farms—is practically completed. We have just had a coal area of about 1200 acres pegged off provisionally on the Umzangwani river, about 120 miles south-east of here. The pegger reports area full of promise, and indications A1. We hold one-third interest in November at latest. A syndicate has been formed in which we have one-third interest for the purpose of acquiring some 1200 or 1500 claims, making the claims in which we have an interest about 3000 in all.

NEW QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers, August 30:—I beg to submit to you my report on work done in your mine during the past fortnight: No. 2 south level, Work has been suspended in this level and stopes. The men who were working in this portion of your mine have been transferred to the footwall reef, being more advantageous for working on account of the small reef and the want of sufficient air to keep everything going.—No. 4 south level footwall. Stopping has been carried on both over and under the level, the reef being very irregular, from 3 inches to 1 foot. The reef is showing more mineral than it did last fortnight. The veins under this level has been sunk a further depth of 6 feet, making it 28 feet, with 6 inches of stone in the face.—No. 5A south level. Stopping has been continued over this level, the reef averaging about 10 inches, and is rather white looking.—No. 1A underlie north level. Stopping has been carried on over this level. The reef is irregular and very much broken up, through ore formation which varies from 1 foot to 2 feet in width.—No. 4 formation. No. 3 north level has been extended a further distance of 15 feet, making it 125 feet from underlie shaft. The reef in the end of level is very small, about 2 inches. Stopping has also been carried on. The reef is very much broken up, the formation in places carrying no reef. Several patches of stone occur, which vary from 3 to 9 inches thick.—Straight shaft. The straight shaft has been sunk a further distance of 17 feet, making it 137 feet from No. 4 plat, and 1140 feet from the surface. We have also timbered up 58 feet. Owing to several vertical heads, and the unsafe condition of the shaft, it was necessary to put in the timber. During the fortnight we were idle for two days. The main steam pipe has always been too small, being only 4 inches, and these have been replaced with 8 inch pipe, which will be suitable for all requirements. I regret to say that the Jordan and Cumming's compressor has given us considerable trouble during the fortnight. A new crank shaft had to be put in, the old one being bent. The piston rod broke on the 28th, which had to be replaced by a new one, and this delayed the working of the compressor for 36 hours. This morning I find two arms of the driving wheel broken and we are now engaged putting plates on same, but I am doubtful whether we can make a job which will stand the strain. I would point out that it is almost impossible to keep the compressor in order owing to the high rate of speed required to keep up a sufficient pressure of air, and then we cannot average more than 60 lbs. of pressure, which is inadequate for the working of the mine, as pointed out in a previous report. During the fortnight had it not been for the reserves of stone on hand it would have been impossible to keep the battery going. These reserves are gradually decreasing and at the present state something will have to stop, either the battery or the straight shaft. Quantity of stuff raised during the fortnight:—No. 2 south level, 14 truck; No. 4 south level footwall, 142 trucks; No. 5A south level footwall, 76 trucks; No. 4 formation, 101 trucks; No. 1A underlie north level, 9 trucks; total, 342 trucks.—(Signed) W. Henderson.

NO. 7 NORTH-EAST QUEEN.—The following report has been received for past fortnight, dated Charters Towers; Brown and party over No. 1 east level gave up their block, not deeming the stone payable. Balch and party crushed 43 tons 10 cwt. for 39 ounces 3 dwts. of melted gold. Hamilton and party above No. 2 level east are stoning at present with a view of crashing some time next week. The stone they are working will average over 1 foot in thickness, but some of it is of very poor quality. Balks and party on the western side below No. 2 level are still stoning on from 2 to 15 inches of stone, though some of this is not good enough to save. Balch and party, western side, are stoning on a reef that will average from 10 inches to 1 foot thick of heavy mineral stone, though it did not crush as well as expected, yet it might go better the next time with them. Mills and party started to rise from No. 3 level to eat the reef worked by the above party (Balch), who gave up their block after rising 12 feet. I have let a block in No. 3 level west to Mower and party; they are starting from the back of the level, and have 2 feet or more of stone to work on. Wherry and party have 10 inches of good stone on the hanging-wall at present. Jordan and party in the intermediate level west are still stoning on 6 to 8 inches of stone. Hauled for the fortnight 21 tons of quartz.—(Signed) John T. S. Williams.

PAHANG-KABANG.—Bala, September 10.—Report for August:—Myah. The old adit has been driven a further distance of 35 feet, total from No. 4 crosscut 74 feet. The country passed through was brown slate, and lately had a more settled appearance. The lode is only a foot in thickness, and at present is not payable.—Brand's. The top drive west has been driven 27 feet, total 27 feet, according to the bearings given by the surveyor for a straight connection with the top drive east. There is a lode in the face at present, but I have seen no tin in it.—Winze. This has been sunk 25 feet deeper, total 41 feet below the level. The country passed through was a brown slate. For the first part of the month the lode averaged 4 feet of good quality ore. I have seen no tin for the latter part of the month. I have had samples from this winze assay as high as 20 per cent. oxide of tin. Bath's drive had only been driven 5 feet further when we cut a slide which came in at the roof of the drive and crossed the lode at right angles, causing the lode to turn over. I drove along the slide on the formation in south-easterly direction for 27 feet, but have seen no tin since cutting the slide. The lode is much broken up in the face at present. On August 31 I handed over charge of the mines to Mr. Rich after showing him around the workings for two or three days.—Thor. H. Bath.

SULTAN (COOLGARDIE).—The company's manager at Coolgardie reports under date September 9 as follows:—No. 2 shaft. Have sunk for fortnight 35 feet, making total from surface 95 feet. At this depth we passed through the reef, and it is about the same width as in the 50 feet level, and a fair prospect can be obtained by dollying and panning a sample of the stone. I intend to sink the shaft 5 feet farther, and then drive on the course of the reef, and I think there is every prospect of it opening up well.

WEST AUSTRALIAN GOLD CONCESSIONS.—Report to the manager: Princess Royal, for week ending August 10:—Section No. 2 shaft sunk 8 feet, total 83 feet; country same, reef rather larger and gold-bearing. Level north also continued, present length 39 feet; reef variable in size.—Princess Royal north. Drive north advanced 8 feet, total 19 feet; country same. Drive carries a leader of 6 to 8 inches width with it.—Princess Royal For week ending August 21. Men engaged timbering up south shaft, and lagging up and fixing windlass, present depth of shaft 9 feet below surface of ground.—Princess Royal north. Have cut better looking stone north of blow in trenches.—Princess Royal, week ending August 31. South vertical shaft on Princess Royal south to 15 feet from surface, making total depth from back 20 feet 6 inches. Expect during the week to get the north vertical shaft timbered and well started.—Lady Hynes, week ending August 17. Have since commenced to drive along vein going north, and have driven 4 feet 6 inches. No change. Vein rather unstratified; at widest, not more than 1 foot, carries fine gold. I intend driving south at the same time. I still think this is a parallel vein on footwall side of main lode.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for the week ending September 4: Blackwood (No. 1) shaft, 300 level. West crosscut off plat extended 4 feet, total from plat 23 feet; face in hard country rock. 200 level north-east drive off winze down No. 1 west crosscut driven 11 feet, total 43 feet; better looking sulphides showing in reef. Have also driven 15 feet northwards on sulphides. We broke 10 tons sulphides, averaging 23 per cent. lead, 142 ounces silver per ton, and 14 per cent. zinc. West crosscut down western extension winze lengthened 6 feet, total 60 feet; face in good grade sulphides. We mined 7 tons sulphides, averaging 24 per cent. lead, 18 ounces silver per ton, and 25 per cent. zinc, and 3 tons carbonates, 20 per cent. lead, and 19 ounces silver per ton. Winze in long crosscut sunk 3 feet, total depth 41 feet; bottom in fair grade sulphides. We broke 9 tons sulphides, averaging 28 per cent. lead, 17 ounces silver per ton, 29 per cent. zinc. —Howell (No. 2) shaft, 300 feet level. Nothing has been done in west crosscut from plat since last report. North-east drive started off east crosscut for connection with 270 winze was driven 4 feet through hard country. Have been strengthening timbers in different parts of mine on the upper levels. —Marsh (No. 6) shaft, second level. Have been following lode in various directions. We mined 4 tons carbonates, average 26 per cent. lead 45 ounces silver per ton. —Junction 300 level. Uprise risen 11 feet, total height 57 feet. Roof showing more sulphides. —Surface. The excavations for the air compressor alongside the large No. 1 engine room are nearly finished, and masons have started building up the engine foundations. The machinery is expected to arrive in a few days. —Ore shipments. We forwarded 138 tons (net) sulphides from main workings to Block 14 Mine during the week, which contain 1519 ounces silver and 41½ tons lead. —Week's assays. Carbonates. Lead from 13·5 to 39·5 per cent., silver 5·5 to 115 ounces per ton. —Sulphides. Lead from 17 to 30·5 per cent., silver 10·7 to 24 ounces per ton, and zinc 11·7 to 33·5 per cent.

COROMANDEL.—Superintendent's report for fortnight ending September 21:—Prospect shaft. The crosscut east from 500 south has been driven a further 16 feet 6 inches, total 195 feet, without change. No. 2 winze bottom 500 north has been sunk 22 feet, and the lode in bottom is 1 foot wide, assaying 5 dwt. of gold per ton. 320 north of shaft has been continued north-east on cross-course a further distance of 9 feet, making 32 feet driven in this direction. A branch of quartz has made its appearance in the end which we think will lead us on to the lode. 320 north of rise on new shoot driven 22 feet, total 207 feet. There is no lode in present end. —320 south of rise. After driving a further distance of 4 feet this end has intersected the dyke. Total distance from rise is 166 feet. A rise has been started 16 feet back from end and risen 24 feet. Lode in back is 3 feet wide, and assays 1 dwt. 21 grains of gold per ton. —200 feet level north on new shoot. The drift north-east from former level has been advanced since last report 42 feet, total 109 feet. This has opened several branches of quartz. The present end carries a vein 1 foot wide, which assays 3 dwt. 12 grains of gold per ton. 200 south of crosscut on new shoot driven 12 feet, total 71 feet. Lode 6 inches wide, worth 10 dwt. of gold per ton. Rise back 200 north risen 11 feet 6 inches, total 71 feet, and holed to east shaft. —New east shaft. Sunk 5 feet, total 130 feet from surface, and holed to rise back 200 north. This communication has greatly improved the ventilation of the mine, and we are now cutting down the shaft preparatory to putting in cage road. In future reports all drivages on the new shoot will be referred to as north or south of this shaft. A new rise has been started in the back of the 200 feet level, 10 feet south of the crosscut. It has been risen 27 feet, and the lode is 1 foot 6 inches wide, assaying 10 dwt. of gold per ton.

CAVEN'S CALEDONIA.—The following fortnightly report has been received from the mine, dated Charters Towers, August 29: In the underhand stope from No. 9 level there are two men working on about 9 inches of stone, and in the stope over No. 9 level there is one man stowing on about 8 inches of stone. Over the crosscut in No. 8 level there are four men on each shaft working on about 15 inches of stone. The level on hanging-wall reef has been extended 5 feet, making a total of 135 feet from the end of the crosscut with 4 inches of reef in the face. In the five stoves over this level the reef varies from 4 to 10 inches in thickness. The crosscut on the fault in No. 7 was started on the 20th inst., and has been extended by five men a further 15 feet, making the total distance 24 feet from the old reef. The haulage of quartz for the fortnight is 88 tons, making a total of 90 tons in the paddock. —(Signed) William Forrester.

EAGLEHAWK.—Extracts from report of the new mine manager, Mr. Simon Jenkins, in taking charge of the Eaglehawk Company's mines, dated September 2: The reef in this mine in the upper levels is very wide; some places 30 to 40 feet. At the 515 feet level the reef is about 30 feet wide, and shows gold on the east side. I would recommend that you take out a trial crushing from this place. At the 826 feet level the reef is about 3 feet wide going south, and is 122 feet west of the shaft and underlaying east. I am of opinion that it is a new formation, and has every appearance of making bigger as it goes down. You are aware that good stones of gold have been got from this reef. I would suggest that a drive be driven south at the 1000 feet level to see whether the stone goes down, and if it does, and proves payable, you would have 174 feet of backs. Ten heads of the battery is now in full swing crushing the stone that was laying at the surface (about 140 tons) that was raised from the 826 feet level. I think that the future prospects of your mine are very promising. With regard to the bursting of the boiler, the *Bendigo Advertiser* states: An inspection of the boiler shows no flaw of any kind, and the cause of the accident is, so far, a mystery.

MOUNT ZEEHAN (Tasmania).—Manager reports for week ended August 30; Silver Queen section. No. 8 lode. Main shaft. No. 2 level. Drive on west branch extended 7 feet, total 16 feet. Lode formation 3 feet, carrying about 3 inches galena. Ore raised 4 tons 6 cwt. firsts, assaying 72 per cent. lead and 38 ounces silver per ton. East crosscut extended 5 feet 6 inches. Ground very hard. Have about 2 feet further to go before we expect to cut the lode. —Tributes. Our tributes on the Queen Extended section are generally doing well. G tributes raised during the month 74 tons first-class ore, which realised £926, netting to us £185. The total output from the whole of the tributes was 170 tons of galena, which sold for £1809, our share of this amounting to £345. Machinery at both sections is working splendidly.

MOUNT LYELL.—Copy of mine manager's report for week ending August 28:—Surface prospecting shaft, hanging-wall. The shaft has been sunk 7 feet, total 107 feet. There is no change to note, except that the pyrites wall is underlying more than it has done for some time past. —South drive No. 3 tunnel. The face has been advanced 6 feet, total 438 feet, the driving is now wholly in pyrites, the wall having made a sharp bend to the left. —North drive indicator winze. The face has been driven 5 feet, the pyrites wall has made a sharp turn, but is coming back again to its regular course. —North drive No. 4 tunnel. The contractors have driven 3 feet, total 194 feet 6 inches, country somewhat easier. —South drive No. 4 tunnel. 12 feet have been driven, total 247 feet, the country in the face is much harder. —South drive 75 feet level engine shaft. The face has been advanced 8 feet, total 30 feet, there is no change to note. —No. 5 tunnel. The face has been driven 8 feet, total 1077 feet 6 inches; the country is schist, showing a little mineral. —Progress report for week ending August 30: Hauling line. Ballasting, plate-laying, &c., all completed, putting in junction station yard and defective roller, signal and porters' cabins in progress, will complete work finally next week. —Smelter site. Main flue, retaining walls, sheet-piling, and various sundries in progress; contractors making good progress with lower members of building, foundations of smelter stack in progress, winding engine and hauling line to same and smelter site in progress. —Converter site. Excavation nearly completed. —Brick plant. Expect to have new plant running on Monday, compound engine running and portable engine being repaired; expect shaft, saw-bench, and portable engine to new site middle of next week; lathe-drilling machine, &c., erected, and running well. —Wester very bad, heavy rains, snow and sleet, causing considerable broken time.

MURCHISON NEW CHUM.—The following is a copy of the manager's report for fortnight ending September 2: Main shaft

sunk 6 feet, total from surface 216 feet. Extended plat 9 feet and timbered same, total length of plat 19 feet from opening set. —Drives north and south at 240 level. North drive extended 10 feet, total from crosscut 27 feet. South drive extended 17 feet, total from crosscut 25 feet. The reef in both faces is just about same as in my last report. Have not cut rich shoot in south yet. South stope 140 feet level worked out. Have started another stope farther south at same level, looking fairly well. —New Chum North 140 feet level. Uprise risen 11 feet, total height 57 feet. Roof showing more sulphides. —Surface. The excavations for the air compressor alongside the large No. 1 engine room are nearly finished, and masons have started building up the engine foundations. The machinery is expected to arrive in a few days. —Ore shipments. We forwarded 138 tons (net) sulphides from main workings to Block 14 Mine during the week, which contain 1519 ounces silver and 41½ tons lead. —Week's assays. Carbonates. Lead from 13·5 to 39·5 per cent., silver 5·5 to 115 ounces per ton. —Sulphides. Lead from 17 to 30·5 per cent., silver 10·7 to 24 ounces per ton, and zinc 11·7 to 33·5 per cent.

MYSORE WEST AND MYSORE-WYNAAD CONSOLIDATED.—Tank block. The mining manager (Mr. P. Bosworth Smith) reports by mail for the half month ended September 15, as follows:—South shaft. Sinking was resumed on September 1. The shaft is now 483 feet 9 inches deep, last reported being 471 feet 9 inches; progress for the month 12 feet. We have cut a detached piece of quartz in the south end of shaft which let in a stream of water. The quartz is 3 feet wide and carries 5 dwt. of gold to the ton, but we are not far enough into it to know what it is. 450 level north has been driven to 363 feet 9 inches, progress 25 feet 9 inches. In this distance the quartz has narrowed to from 2 feet to 18 inches, but the value has improved, the quartz varying from 10 dwt. to 12 dwt. per ton. 450 No. 2 rise has been risen from 36 feet 9 inches to 52 feet 6 inches, progress 15 feet 9 inches. The quartz is rather disturbed; the quartz is 1 foot wide worth 12 dwt. per ton. Intermediate north end is 120 feet 6 inches from the rise, progress 16 feet 6 inches. The end is now in the disturbed ground. There is 14 inches of quartz worth 8 dwt. per ton. —Intermediate winze. This was started to hole through into hopper at 450 crosscut. The winze has been sunk by hand 7 feet 6 inches at this depth. At this depth a 3 feet hole blew through. We are now stowing up north end of winze to make it in to hopper. The mill is running well.

NEW KLEINFONTEIN.—Summary of operations for August: Mining and milling. Quartz mined 6449 tons of 2000 lbs., quartz milled (65 heads, ran 29½ days) 6449 tons of 2000 lbs., yielded smelted gold, 2072 ounces 1 dwt. (average per ton 6·42 dwt.), realised £7511 5s. 8d. —Cost. Mining, hauling, and development 14s. 4·58d. per ton, crushing, sorting, and trammimg 11·87d., milling 3s. 0·05d., maintenance 1s. 6·77d., charges 1s. 1·08d.; 6449 tons at 21s. 0·35d., equals £6781 8s. 6d. —Cyanide treatment. Tailings treated 4980 tons of 2000 lbs., yielding smelted gold 756 ounces 0·5 dwt. (average per ton 3·04 dwt.), realised £2041 18s. 6d.; total £9553 4s. 2d. —Cost. 4980 tons at 3s. 9·32d. per ton, equals £910 7s. 8d. £7721 16s. 2d; profit for month £1831 8s. —Capital account. Expended on permanent mine £1053 17s., machinery and plant £6087 16s. 6d., buildings £894 14s. 1d., live stock and wagons £40, furniture £61 5s. 6d.; £837 13s. 1d. —Mine. Total ore reserves on August 31 72,125 tons. —Development. Driven and sunk 657 feet, against 665 in July; 8976 tons developed, against 8723 in July. —The new main incline shaft (eastern section). Sinking has been commenced to 3rd level. The equipment of this shaft is going on satisfactorily. The improvement in the ore developed in the western section of the mine is being maintained. The foundations for the additional stamps are well in hand. The erection of the central breaker station is proceeding well. Your company have an abundant supply of native labour at present.

NEWHOUSE TUNNEL.—The following appeared in the *Denver Times*, September 21:—“Mines on either side of the Newhouse Tunnel, near Idaho Springs, for a distance of half a mile or more, are experiencing relief from water—a good indication that the tunnel has progressed far enough to drain the first mines cut within its path. Although the exact length of the tunnel so far completed is not known, it can be safely said that the first mile has been passed.” A prominent mining man recently called the attention of *The Times* representative at Idaho Springs to the following editorial, appearing in Wednesday's paper:—“If irrigation enterprise continues to spread through the State the man who owns a mine that is filled with water may yet be able to rank among the wealth producers. That statement may have been intended as a joke, he said, but there is more truth in it than the editor of *The Times* at first intended. At present there is a mountain stream coming out of the Newhouse Tunnel, and it is steadily increasing. When the tunnel reaches the underground streams of Gilpin county and drains the various mines the water will prove a wealth producer. All of the machinery of the Tunnel Company can then be turned by the volume of water coming out of the tunnel. It is known among those on the inside that Mr. Newhouse intends erecting at the mouth of the tunnel immense mills for the treatment of the low grade ores, and the entire body of water will be utilised. I consider that his plans for drainage, transportation, mining and milling, are the most gigantic of any modern application for the handling of ores.”

OREGUM.—Superintendent's report for fortnight ending September 25: Taylor's shaft sunk 9 feet, total depth below the 760 feet levels 83 feet. Lode 1 foot wide, assay value 1 ounce 5 dwt. 10 grain. The 760 feet level south driven 23 feet, total 284 feet. Lode 6 inches wide, assay value 2 ounces 5 dwt. 17 grains. No. 1 winze 760 feet level south 3 feet, total 20 feet. Lode 2 feet 6 inches wide, assay value 2 ounces 9 dwt. No. 2 winze 760 feet level south sunk 7 feet, total 12 feet. Lode 3 feet 6 inches wide, assay value 2 ounces 1 dwt. 9 grains. No. 1 rise 760 feet level south risen 9 feet 6 inches, total 50 feet 6 inches. Lode 4 feet wide, assay value 2 ounces 4 dwt. 15 grains; communicated with No. 1 winze from 660 feet level south. No. 1 rise 760 feet level north risen 8 feet 6 inches, total 47 feet. Lode 4 feet wide, assay value 1 ounce 1 dwt. 19 grains. The 660 feet level south driven 17 feet 6 inches, total 427 feet 6 inches. Lode 6 inches wide, assay value 2 ounces 6 grains. No. 1 winze 660 feet level south sunk 6 feet 6 inches, total 67 feet 6 inches. Lode 4 feet wide, assay value 2 ounces 7 dwt. 21 grains; communicated. No. 2 winze 660 feet level south sunk 1 foot 6 inches, total 31 feet 6 inches. Lode 4 inches wide, assay value 6 dwt. 12 grains. No. 3 winze 560 feet level south sunk 3 feet, total 65 feet. Lode 9 inches wide, assay value 10 dwt. 21 grains. No. 4 winze 560 feet level south sunk 3 feet 9 inches, total 34 feet 9 inches. Lode 1 foot wide, assay value 2 ounces 10 dwt. 2 grains. The 460 feet level south driven 3 feet 6 inches, total 549 feet. Lode 1 foot 9 inches wide, assay value 2 ounces 3 dwt. 13 grains. —Wallroth's shaft. No sinking done owing to a material increase of water caused by the heavy rains of the past fortnight, which has taxed the pumping appliances to the utmost, and there still remains about 30 feet of water in the shaft to be drained. The 1060 feet level south driven 29 feet 3 inches, total 80 feet. Lode 1 foot wide, assay value 8 dwt. 17 grains. The crosscut east from 1060 feet level south driven 18 feet 6 inches, total 28 feet 9 inches. At a point distant 22 feet from the south drivage a branch of quartz was intersected 4 inches wide. A sample from which gave by assay 6 dwt. 12 grains of gold per ton. The 1060 feet level north driven 13 feet 9 inches, total 43 feet 6 inches. Lode 6 inches wide, assay value 1 ounce 5 dwt. 3 grains. The 960 feet level south driven 29 feet 6 inches, total 411 feet 6 inches. Lode 6 inches wide, assay value 5 dwt. 10 grains. No. 1 winze 960 feet level south sunk 6 feet, total 63 feet. Lode 1 foot wide, assay value 7 dwt. 15 grains. No. 2 winze 960 feet level south sunk 5 feet 3 inches, total 20 feet 9 inches. Lode 1 foot wide, assay value 12 dwt. No. 1 winze 960 feet level north sunk 5 feet, total 44 feet. Lode 2 feet wide, assay value 4 dwt. 8 grains. The 860 feet level south driven 31 feet 3 inches, total 717 feet 6 inches. Lode small, no sample. No. 2 winze 360 feet level south sunk 7 feet 6 inches, total 93 feet. Lode 2 feet 6 inches wide, assay value 3 dwt. 6 grains. No. 3 winze 860 feet level south sunk 6 feet, total 63 feet 3 inches. Lode 2 feet wide, assay value 5 dwt. 10 grains. No. 4 winze 860 feet level south sunk 5 feet 6 inches, total 30 feet 9 inches. Lode 1 foot wide, assay value 3 dwt. 6 grains. No. 3 winze 760 feet level south sunk 7 feet, total 51 feet. Lode 1 foot 6 inches wide, assay value 13 dwt. 2 grains.

No. 5 winze 760 feet level south commenced, sunk 9 feet. Lode 9 inches wide, assay value 10 dwt. 21 grain. No. 6 winze 760 feet level south sunk 5 feet 6 inches, total 11 feet. Lode 1 foot 6 inches wide, assay value 7 dwt. 15 grains. No. 2 rise 760 feet level south risen 9 feet 9 inches, total 12 feet 9 inches. Lode 1 foot 6 inches wide, assay value 4 dwt. 8 grains. No. 2 winze 760 feet level south sunk 2 feet, total 80 feet 6 inches. Lode 1 foot wide, assay value 8 dwt. 17 grains. No. 7 winze 660 feet level south sunk 6 inches, total 57 feet 3 inches. Lode 4 feet wide, assay value 20 grains. No. 1 winze level south from crosscut east 460 feet wide, assay value 12 dwt. The level north from crosscut east 460 feet level south driven 16 feet, total 42 feet. Lode 2 feet wide, assay value 14 dwt. 4 grains. No. 1 rise 360 feet level south commenced, risen 6 feet. Lode 1 foot 6 inches wide, assay value 7 dwt. 20 grains. No. 5 winze 290 feet level south sunk 6 feet 9 inches, total 15 feet. Lode 9 inches wide, assay value 9 dwt. 19 grains. No. 5 winze 215 feet level south sunk 3 feet 3 inches, total 88 feet. Lode 1 foot 3 inches wide, assay value 4 dwt. 8 grains. Communicated with 280 feet level north. Lode 4 feet wide, total 764 feet 4 inches. The 710 feet level south driven 13 feet, total 122 feet. Lode 6 feet wide, assay value 13 dwt. 2 grains. The 710 feet level south, driving north on lode from point of intersection, driven 14 feet, total 21 feet 6 inches. Lode 3 feet 6 inches wide, assay value 1 ounce 1 dwt. 19 grains. No. 6 winze 610 feet level south sunk 3 feet 6 inches, total 86 feet 6 inches. Lode 2 feet 6 inches wide, as value 10 dwt. 21 grains. No. 1 rise 610 feet level south risen 1 foot 6 inches, total 19 feet. Lode 1 foot 2 inches wide. No sample. Probyn's shaft sunk 4 feet 6 inches, total 1151 feet 6 inches. The 1050 feet level south driven 3 feet, total 173 feet 6 inches. No discovery; suspended. A drive has been commenced east of south at a point 56 feet from the end of south drivage, as marked out by the surveyor, to communicate with No. 1 winze from 950 feet level south, driven 11 feet. The drive level north sunk 5 feet 3 inches, total 64 feet 9 inches. Lode pinched; no sample. Throughout the mine we are working 60 stops, which are yielding quartz of the average quality. They will all be measured at the end of month, and particulars given in next report.

PAHANG CORPORATION.—Jeram Batang: Mine report for August: —Adit level. The drive has been advanced a further distance of 15 feet, total 302 feet from the crosscut. The country through was a hard grey rock, heavily charged with mineral. The lode will average 3 feet of poor quality ore. The drive west was advanced another 30 feet through a slate country, total from crosscut 273 feet. The lode will average 3½ feet in thickness of fair quality ore. I am at present keeping this stuff by itself, as intended to put a trial crushing through the battery this month. —No. 1 adit. The drive east has been driven 49 feet, total 328 feet through a black slate country. The country is much better for working this month, but the lode will only average 2 feet of ore which is not payable. I have stopped this drive for the present, and put the men stowing 60 feet back from the face on some tin ground there. The lode here is small, 2½ feet in thickness, but is of good quality. The drive west has been driven a further distance of 40 feet, total 343 feet from crosscut 431 feet. The country passed through was a mixture of brown and grey slates. The lode will average 4 feet in size. We have had some tin of fair quality at intervals during the month. —Giffard's lode adit level. The drive east has been driven 31 feet through a hard black slate country, total 63 feet from crosscut. The country has got much harder during the last fortnight, and the lode has almost cut out; for the first 15 feet the lode averaged 6 inches of good quality ore. If there is no improvement in the next few feet I will stop this drive. —Stoops. The two parties of men stowing over the backs of east adit level have stowed 31 cubic fathoms of fair quality ore, and the lode in the stoves at present will average 10 feet of crushing stuff. The stoves over the backs of No. 1 adit will average 8 feet of lode matter of fair quality ore. The contractor here have stowed 30 fathoms of lode matter. The eastern stoves is this level have been looking better these last few days. —Site for shaft. The contractors have now finished removing the earthwork, and I will now go on with the sinking of the shaft at once. —Ward's lode. A crosscut was put in to tap this lode underneath the old Chinese workings, and then a drive east on the lode 88 feet from the crosscut. It has been thought better to give this place a further trial as the Chinese had good quality ore in their old workings. I started a party of men cleaning out the drive; this they have now finished, and work has again been resumed in the face. I shall have to retimber the drive in places, as the old timbers are quite rotten. 823 tons of ore were sent to the battery for a return of 31 tons of black tin. —Thos. H. Bath, Sangei Lembing report for August: —Pollock's No. 1, below adit. During the month connection was effected between A and B winzes in the intermediate drives from same. Distance driven during the month, 33 feet. Lode 1 to 2 feet wide, carrying ore of poor quality. The total length between the two winzes is 197 feet. A winze is being sunk halfway between A and B, and is down 5 feet. Lode 1 foot 6 inches wide, which contains good quality ore. We are still obtaining good quality ore from the stoves in this intermediate drive. No. 2 below adit was advanced west 52 feet, total from crosscourse 252 feet. Lode 2 feet wide, carrying occasionally some good tin stones. Crosscut south from this drive was driven 20 feet through hard killas, the only thing met with being several veins of calc-spar, containing copper blonde. No. 3 below adit was driven 5 feet only. The country here is still very hard. The drive is following what is apparently the footwall of the lode, which carries a small formation of lode matter with it, but which is unproductive. The rise from this level has disappeared from No. 2, and is making freely in No. 3. —Campbell's. A distance of 13 feet was driven east on the lode, which was 2 feet wide, yielding good ore, until meeting with the formation mentioned in my last report, which cut it off. I continued driving, following the cross-course north-east, as I expect to pick up the lode again in that direction, as usually all our “heaves” in Pollock's are to the north; but being very short of miners was obliged to discontinue work here for the time being. Total driven 38 feet in all. The crosscut was driven a further 18 feet, total 601 feet, but meeting with nothing but solid country, driving was discontinued. —Willinks. No. 2 section stope. The lode in the drive and the stoves remain about the same, yielding ore of fair quality. The country is extremely hard. The crosscut to intersect A winze was advanced 24 feet, total 61 feet. Country hard killas. I expect to hole through to the winze ahead of us this month. —Nicholson's. No. 1 drive was advanced east 49 feet, total 703 feet. Lode 3 to 5 feet wide, and over a length of 30 feet yields good ore. Stopping is being carried on over this ground. Winze A was sunk 24 feet, total 108 feet. When a few feet deeper it will connect with the crosscut from Willinks' adit. —Teague's. Work was resumed here last month by starting a vertical air shaft from the surface to connect with the eastern end of the adit level which fell in during some very heavy rains. As soon as connection is made I shall be able to inspect the drive and ascertain the amount of ground requiring retimbering. When work was stopped fair tin was showing in the lode, which was 2 feet wide. During the month we sank 46 feet; 20 to 25 feet more the shaft should connect with the drive. —David Wm. Jones.

TO DETECT IRON FROM STEEL TOOLS.—It is difficult (says a Belgian journal) to distinguish between iron and steel tools. They have the same polish and work

AUSTRALASIAN MINING.—Fortnightly report of Mr. John Ames, mine agent, dated August 29: For the past fortnight Bishop's party have sunk the shaft 25 feet, total 410 feet, and timbered 382 feet. At 395 feet we cut a grey rock formation 3 feet thick, with three ledges in it, one on the hanging wall, one on the footwall, and one in the middle about 1 inch thickness in each. The underlay of this formation is about 1 in 4 west, and has the usual course of a reef. The country that overlies this is dark limestone, the country being the same under it. The water is about the same.

BAYLEY'S REWARD, No. 1 SOUTH.—Mining report, dated Coolgardie, W.A., August 26:—The work for the week ending August 23 is as follows:—170 feet level. North drive. The reef is in a very unsettled state, and has twisted about somewhat, but still looks exceedingly well, and has maintained its full width of 5 feet throughout the week, the drive having been extended 4 feet. A bulk sample of 20 tons averaged 10 dwts. per ton. No apparent change in character of stone in face.—120 feet level. South drive, winze sunk 2½ feet. Fine gold continues to show up during breaking of stone. Purpose continuing this winze down to 170 feet level.—90 feet level. North drive winze sunk 5 feet, total depth 23 feet. Continue to see nice gold through the stone. Rather a curious development has apparently occurred here. Instead of the reef cutting out before reaching the 120 feet level, as the drive at this level showed, the reef has made a splice, and instead of bearing north as usual, is going about north-west. I have started a crosscut in from 120 feet level about 30 feet from shaft, and will probably have about 10 feet to go to cut it. I shall then put on three shifts instead of one as at present, and drive on it both ways to get the blocks ready for stoping as quickly as possible. The reef in the bottom of the winze is 15 inches wide.—Battery. During this week owing to public crushing, we have been only able to crush 30 tons or ourselves—24 tons from 170 feet level, and 3 tons from 120 feet level and 90 feet level respectively. I enclose list of the public crushings to date. This coming week I hope to make up some lost time, and shall crush principally from the two winzes, 120 feet and 90 feet levels.—Gold dispatched. 91 ounces 14 dwts. of smelted gold were dispatched, per escort, 24th inst.—(Signed) Tom V. Browne.

BAYLEY'S REWARD CLAIM.—Mining report, dated Coolgardie, August 26: Work done for week ending August 23 is as follows:—380 feet level. A slight change for the better has occurred here. Extended drive 17 feet, total 150 feet from crosscut. Face showing small quartz vein about 2 inches wide, dipping south with fine threads of quartz running through the country. Gordon shaft, 50 feet level south driven 8 feet, total 216 feet. Lode about 10 inches to a foot wide, fine gold seen occasionally.—Keating shaft, South drive driven 5 feet, still in country rock; have discontinued work here for the present.—150 feet stop (between 100 and 165 feet levels). Fair stone being broken here, all of which will pay for crushing, and will go through the battery during this week.—Everard's air shaft, north stop. Work in this stop is being pushed on as I expect to mostly supply the battery from here for the fortnight. Very nice patches of gold have been seen during the week, which auger well for an improvement in this crushing.—Everard's air shaft, south stop 40 feet. I have discontinued this stop for the present, the stone not being of very high grade, and the size only 10 inches. It would scarcely repay the work of taking it out, the men being removed north of Everard's shaft cleaning up old pass, and generally getting ready for stoping a block of fair ground there.—Battery and machinery. I am pleased to inform you that we have finished all alterations here, and have started battery to-day. So far the oil-engine does her work of driving the 20 stamps with the greatest ease, and the tailings-pits and settling-boxes promise to do all that is required of them. Everything, in fact, is running in a most satisfactory manner.—(Signed) Tom V. Browne.

CHAMPION REEF.—Fortnightly report of Captain James Rowe, superintendent, dated September 23:—Garland's shaft. Owing to the rock drills being principally employed in cutting plats at the 90 feet level, very little has been done in sinking the shaft or driving the 940 feet levels north and south. The shaft has been sunk 6 inches, total depth 954 feet. Lode 2 feet, assaying 3 ounces 10 dwts. of gold per ton. Nothing has been done towards driving the 940 feet north and south of shaft. The 840 feet level north has been driven 30 feet, total length 540 feet 9 inches. Lode 2 feet, assaying 1 ounce 9 dwts., 16 grains of gold per ton. No. 3 rise is lack of level risen 18 feet, total height 89 feet 6 inches. Lode 1 foot 6 inches, assaying 1 ounce 6 dwts., 23 grains of gold per ton. The 740 feet level north has been driven 23 feet 6 inches, total length 742 feet. Lode improved in size, is now 2½ feet wide, assaying 1 ounce 1 dwt., 19 grains of gold per ton. No. 5 rise in lack of level risen 16 feet, total height 49 feet. Lode 2½ feet, assaying 1 ounce 1 dwt., 17 grains of gold per ton. The 630 feet level north has been driven 26 feet 3 inches, total length 881 feet 9 inches. Lode 4 feet, assaying 1 ounce 12 dwts., 6 grains of gold per ton. No. 6 rise in back of level risen 9 feet, total height 75 feet. Lode 2 feet, assaying 1 ounce 9 dwts., 10 grains of gold per ton.—Bobbendale's shaft. This has been sunk 6 feet 6 inches, total depth 69 feet 6 inches. Lode 9 inches wide, assaying 1 ounce 6 dwts. of gold per ton. The 640 feet level north of shaft has been driven 10 feet 9 inches, total length 120 feet 3 inches. Lode 9 inches, assaying 1 ounce 12 dwts., 6 grains of gold per ton. The 60 feet driven 16 feet 6 inches, total length 100 feet 6 inches. Lode 1 foot, assaying 1 ounce 11 dwts., 8 grains of gold per ton. Crosscut east of this 40 feet from shaft driven 8 feet 6 inches, total length 8 feet 6 inches. The 540 feet level south of crosscut east of 60 north of shaft driven 25 feet 6 inches, total length 361 feet 6 inches. Lode 1½ feet wide, assaying 15 dwts., 5 grains of gold per ton. Winze below level sunk 15 feet 9 inches, total depth 140 feet 6 inches. Lode 2 feet, assaying 19 dwts., 10 grains of gold per ton. No. 2 rise in back of level risen 7 feet, total height 73 feet 6 inches. This is communicated with No. 1 incline winze below 440 south. Incline winze below 440 south sunk 3 feet 6 inches. This is communicated with 640 south.—Carmichael's shaft. We are engaged cutting plats at the 540 feet level, consequently no sinking has been done. The 60 feet level north of crosscut, east of 540 north of shaft is the east part of lode, has been driven 27 feet 6 inches, total length from crosscut 124 feet 6 inches. Lode 6 feet, assaying 2 ounces 1 dwt., 10 grains of gold per ton. No. 2 rise in back of level risen 10 feet 3 inches, total height 17 feet. Lode 1 foot wide, assaying 1 ounce 3 dwts. of gold per ton. Crosscut east of 440 north level has been driven 15 feet 9 inches, total length 30 feet 6 inches. This has been driven to meet with the east part of lode.—Rowe's shaft. This has been sunk 8 feet 6 inches, total depth below the 515 feet level 28 feet. Lode 1 foot, assaying 1 ounce 9 dwts., 16 grains of gold per ton. The 515 feet level north of shaft has been driven 21 feet, total length 105 feet. Lode 3 feet, assaying 2 ounces 18 dwts., 5 grains of gold per ton. Winze below 415 north sunk 12 feet, total depth 80 feet. Lode 2 feet, assaying 2 ounces 3 dwts., 13 grains of gold per ton.—Stopes. We have 50 stopes working throughout the mine. The size and value of lode in each stope will be given in my fortnightly report.—Water. I am pleased to state we have had heavy rain, and that the whole of our tanks are full to overflowing.

GOLD FIELDS OF MYSORE.—Mine report for fortnight ending September 24: Oriental lode, south shaft. The 280 feet level is driving north of crosscut on West Balaghat lode has been driven a further distance of 7 feet 3 inches, total 75 feet 9 inches from crosscut. The lode is 4 feet wide, which is composed chiefly of black rock, and is thinly charged with arsenical pyrites assaying 1 dwt., 5 grains of gold per ton. The end driving south has been extended 10 feet 6 inches, total 84 feet 6 inches. The lode is 4 feet wide, showing vertical veins of calcareous quartz, and does not at present carry any pyrites; with this change we hope we are entering into richer ground. Its present assay value is 2 dwts. 5 grains of gold per ton. The little work done here during the last fortnight is accounted for by the contractor throwing up his contract, and the ends were idle some days before the new contractor got properly at work.—Oriental lode. Rise stope over the 280 feet level south. This has been suspended since my last report for making stope pieces, making shoot, &c., which is now in order, and work will be resumed again within a few days.—Side stope in north lode. The mixed rock continues about the same width 6 feet, but

the assay value of the stuff is somewhat lower, now being 6 dwts. 8 grains of gold per ton.—The 380 feet level north, No. 1 rise 150 feet from shaft. This also has been suspended since last reported for placing timbers, shoot, &c. It is now in order, and work will be resumed as soon as convenient to do so.—No. 2 rise. This rise is going up against the middle shaft risen 17 feet, total 20 feet above the level. The lode formation is 4 feet wide, but it does not carry any quartz, and is of no value.—South level, No. 1 rise. 130 feet from shaft a new rise commenced last week with the view of effecting communication with the 250 feet level to open up stoping ground and to prove the ground between the two levels. The lode is about 3 feet wide of quartz, assaying 5 dwts. 8 grains of gold per ton. No. 2 rise 190 feet from shaft risen 5 feet 6 inches, total 17 feet 6 inches. Above the level the lode is 4 feet wide of a mixed nature, and assaying 3 dwts. 2 grains of gold per ton. This rise will now be suspended for the present until No. 1 rise is a sufficient height to enable us to pass with the wagon under the same. The 470 feet level has been drained. We are now cleaning up the shaft and levels and putting a stope over the north level by hand labour to raise the level about 2 feet, which is now very low.—Middle shaft. The erection of the winding-engine, puppet-heads, and all necessary work connected with the same is being carried on with all speed.

HANNAN'S REWARD.—Extract from manager's letter dated September 6: Main shaft has been sunk a further depth of 5 feet 6 inches, total to date 245 feet 6 inches. We have passed through the pyrites reef, total width of it being 5 feet. It is almost flat, and making fast for the main reef. A bulk sample of the pyrites assayed by Mr. Hooker gave a return of 1 ounce 2 dwts., 16 grains gold per ton, which looks well for the value of the main reef in depth. No. 11 crosscut east has been extended a further 19 feet, total to date 166 feet 6 inches. The formation we met with at 97 feet, and which I mentioned was similar to the Main reef we have now passed through at 147 feet, and have since been driving in country.

KINSELLA.—Mine manager's report for fortnight ending September 5:—Mine. Operations at water level are being carried on, and the level connecting No. 1, 2, and 3 shafts south broke through on Saturday last to main shaft south drive, thus we can now command any part between the main and No. 3 shaft. The lode north of No. 1 north shaft is to-day fully 8 feet thick, and showing gold from wall to wall. The foreman's report herewith will give details of work done for the fortnight. Foreman's report: I beg to report that during the past fortnight the following work has been carried out.—Main shaft. The south drive has been extended 21 feet, total distance from crosscut 108 feet. Lode still pinched, only a few inches in width. There have been only two men in this drive during the fortnight, the other two men being sent on top to push on surface work. No. 1 shaft north drive has also been stopped most of this fortnight. 10 feet has been driven; total distance from shaft 74 feet. The lode is about 18 inches thick in this drive, but of poor quality. There now remains about 20 feet to drive to connect with south drive from main shaft, which we expect to complete in a few days. The lode has been pinched and small, but everything points to a stronger lode at a greater depth. In my last report about 34 feet remained to be driven to connect No. 1 shaft with No. 2 shaft. This has been completed, and two men started to break stone along back of drive, put in still timber ready for stoping. There is a fair quality of stone all the way from No. 1 shaft to No. 3 shaft, a distance of 218 feet, stone of fair quality, average fully 4 feet wide. No. 1 shaft north. The north drive has been extended 31 feet, total distance from crosscut 99 feet. Lode about 7 feet wide. I have seen fair gold in footwall slab of stone, and washed drillings equal to about 2 ounces per ton, the headwall slab is much poorer, but is improving, and to-day a little fine gold is to be seen in the stone. All this work is still being carried out at the 43 feet level, but as the last of the winding plant is expected in a few days, I hope we shall soon be down at the 100 feet level. I have had two men for a few days putting centres and skids in, from 43 feet level to brace, and everything is ready for work. All the surface work is in a forward position. I have put two men to quarry a little more stone, to be ready to finish building in battery boilers when they arrive. We have finished the two sand pits and two settling pits, and all the work is going on as fast as possible.—London office note. Later information received by cable states that the shaft was drained of water on September 30; that the crosscut towards the lode at the 100 feet level had been restarted; that the winding engines were hoisting 42,000 gallons of water per 24 hours; and that the manager hoped to commence to stamp within three weeks.

KEMPINKOTE.—Mine report for fortnight ending September 23:—Garland's shaft has been sunk 10 feet 3 inches, total depth from surface 428 feet 3 inches. Lode in the bottom fall width of shaft, assaying 1 dwt. of gold per ton. 345 north drive has been driven 16 feet, total distance from main crosscut 110 feet 6 inches, the end being in hard schist. We have stopped the driving for the present, and have started a crosscut east 110 feet 6 inches north of main crosscut. 345 south drive has been driven 28 feet 3 inches, total distance from main crosscut 131 feet 9 inches. The lode in the end is the full width of the drive, assaying 2 dwts. of gold per ton. 245 north drive No. 2 winze. In the bottom of No. 1 crosscut 50 feet west of footwall has been sunk 7 feet, total depth 14 feet 6 inches. Lode in the bottom fall width of the winze, giving an average assay of 3 dwts. of gold per ton. The seam of quartz showing visible gold continues. 245 south drive has been driven 16 feet 3 inches, total distance from main crosscut 402 feet. Here we are carrying the footwall and hanging wall. The lode is 4 feet wide, assaying 12 dwts. 3 grains of gold per ton of stuff.—245 No. 2 crosscut west. 280 south of main crosscut has been driven 17 feet 6 inches, total distance from main crosscut 280 feet. The ground in the end being soft schist, we have stopped the driving and have put the coolies to crosscut east 280 south of main crosscut. Henty's shaft has been sunk 5 feet 3 inches, total depth from surface 350 feet 3 inches. There is no change in the ground in the bottom of shaft. Our sink coolies are now engaged in cutting cistern plats. 341 west crosscut has been driven 3 feet, total distance 9 feet. No change. 341 east crosscut has been driven 8 feet, total distance 14 feet. The end is in hard schist.—258 No. 1 crosscut west. 208 feet south of main crosscut has been driven 4 feet 9 inches, total distance from main level 15 feet 3 inches. Lode in the end full width of the drive, assaying 3 dwts. of gold per ton.—173 No. 1 crosscut west. 100 north of shaft has been driven 7 feet 9 inches, total distance from level 33 feet 6 inches. There is no alteration in the ground in the end.

LA BUFA MEXICAN.—Mr. A. Shepherd, the manager at the mines, writes on September 16 to the following effect:—I have secured for this company for immediate delivery six 5 feet 2½ feet, total length 105 feet. Lode 3 feet, assaying 2 ounces 18 dwts., 5 grains of gold per ton. Winze below 415 north sunk 12 feet, total depth 80 feet. Lode 2 feet, assaying 2 ounces 3 dwts., 13 grains of gold per ton.—Stopes. We have 50 stopes working throughout the mine. The size and value of lode in each stope will be given in my fortnightly report.—Water. I am pleased to state we have had heavy rain, and that the whole of our tanks are full to overflowing.

GOLD FIELDS OF MYSORE.—Mine report for fortnight ending September 24: Oriental lode, south shaft. The 280 feet level is driving north of crosscut on West Balaghat lode has been driven a further distance of 7 feet 3 inches, total 75 feet 9 inches from crosscut. The lode is 4 feet wide, which is composed chiefly of black rock, and is thinly charged with arsenical pyrites assaying 1 dwt., 5 grains of gold per ton. The end driving south has been extended 10 feet 6 inches, total 84 feet 6 inches. The lode is 4 feet wide, showing vertical veins of calcareous quartz, and does not at present carry any pyrites; with this change we hope we are entering into richer ground. Its present assay value is 2 dwts. 5 grains of gold per ton. The little work done here during the last fortnight is accounted for by the contractor throwing up his contract, and the ends were idle some days before the new contractor got properly at work.—Oriental lode. Rise stope over the 280 feet level south. This has been suspended since my last report for making stope pieces, making shoot, &c., which is now in order, and work will be resumed again within a few days.—Side stope in north lode. The mixed rock continues about the same width 6 feet, but

We are notified that the Clydesdale (Transvaal) Collieries (Limited) have opened a London agency at Winchester House, E.C., with Messrs. E. P. Mathers, James Mitchell, and T. S. Marshall, as the London committee, and Mr. David J. Taylor as the London secretary.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

M R. SAMUEL JOHN DAVEY, Dealer in Cornish Mine Shares, Redruth, Cornwall, reports under date of October 17 (4 o'clock) as follows:—We have had a quiet market on the whole this week with but very little business, and there is not much doing to-day. Following are quotations:—Blue Hills, 2s. to 3s.; Carn Brea, 1½ to 2½; Dolcoath, 18s. to 18s. 6d.; Dolcoath (partly paid), 5s. to 6s.; East Pool, 4½ to 5; Killifreth, 10s. to 11s.; South Crofty, 2½ to 3½; South Wheal Frances, 1 to 1½; Tincroft, 6s. to 6s. 6d.; West Frances, 1½ to 2; West Kitty, 4½ to 4½; Wheal Bassett, 3½ to 4; Wheal Grenville, 12½ to 13½; Wheal Kitty, 2½ to 3. Polberro, 2 to 2½.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes (October 17) as follows:—The mining market has been dull throughout the week, on the decline of the tin standard. Prices are again easier, and devoid of enquiry. Closing prices:—Blue Hills, 2s. to 3s.; Carn Brea, 1½ to 2½; Devon Consols, 29s. to 30s.; Dolcoath (fully paid), 18s. to 19s.; ditto (partly paid), 5s. 6d. to 6s.; East Pool, 4½ to 4½; Killifreth, 10s. to 11s.; Levant, 4 to 4½; Polberro, 16s. to 17s. 6d.; South Crofty, 9s. to 10s.; South Frances, 1½ to 1½; Tincroft, 6½ to 6½; West Frances, 16s. to 17s. 6d.; West Kitty, 4 to 4½; Wheal Bassett, 3½ to 4; Wheal Grenville, 12½ to 13½; Wheal Kitty, 2½ to 3. Tin, 6s. 6d.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of October 17:—The Cornish Share Market has been somewhat easier during the past week, in sympathy with tin, and the tone has been dull, with but little doing. A few dealings in East Pools (which have improved), Tincroft, and Killifreths have been recorded, whilst there has also been a fair demand for Bassett and Grenvilles. Closing prices:—Blue Hills, 1s. to 3s.; Carn Brea, 1 to 1½; Dolcoath (fully paid), 17s. 6d. to 18s. 6d.; ditto (5s. paid), 5s. to 6s.; East Pool, 4½ to 5; Killifreth, 9s. 6d. to 10s. 6d.; Polberro, 2½ to 3½; South Crofty, 2½ to 3½; South Frances, 1½ to 1½; Tincroft, 5½ to 6½; West Frances, 16s. to 17s. 6d.; West Kitty, 4 to 4½; Wheal Bassett, 3½ to 4; Wheal Grenville, 12½ to 13½; Wheal Kitty, 2½ to 3. Tin, 6s. 6d.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers Queen's Chambers, 7, Market-street, write October 17 (noon):—During the past week the mining market has held the field in the matter of attention. Owing to the recent severe depreciation in prices the settlement therein, which began on Saturday, and was nominally completed yesterday, was looked forward to with much apprehension of trouble; as is usual, forewarned is forearmed, and so it has been in this case apparently. The fear of trouble has induced an amount of preparation sufficient to ward-off what was expected, though it would appear that there is a lot of weeding still to be done in this market from the appearance of sellers on any fair accession of strength in prices. The attention of operators being so absorbed with mining matters has caused other markets to be more or less neglected and irregular in changes of prices in the several departments of rails is the only feature to be recorded. Scotch stocks have fluctuated widely on the varying aspects of the dispute in the shipbuilding trade. Latest advices, however, point to the dispute being settled without resorting to extreme measures, and, in consequence, Caledonian Deferred show a slight advance and North British New Ordinary unchanged in quotations on the week, though both are distinctly above the worst for the period. The daily record in rails is as follows:—On Friday last home rails moved slightly, but the changes on either side were about an equal. Americans (as also Canadians) were a flat market throughout, but declines were unimportant, save for fall of \$1 in Louisvilles, Mexican Rails better. Mines opened weak again, and some very low prices were registered, but later in the day the tone improved, and not only the tone, as figures ran up, in some cases, sharply. On Saturday home rails were without change, save for declines in a few cases, not, however, exceeding ½. Americans firmer, advances of ½ to ½ being pretty general. Canadians and Mexicans moved similarly to Yankees. The improvement of Friday afternoon in mines was continued and accentuated to-day, a much more hopeful view being taken of the situation notwithstanding its being carrying-over day in this department. Monday found home rails rather easier as a rule, Americans were a firm market most of the day, but at the last the best prices of the day were not maintained. The opening in mines looked like a continuation of the upward movement, but towards the close all went flat again, and figures crumbled away afresh. On Tuesday very little was passing in any department, there being some anxiety as to what the following day (pay day) would disclose. The tone of things, however, was a little more confident at the close of the day. Yesterday, although passing over without bringing out any "defaults" did not usher in anything of importance in the way of changes in values as regards home rails. Americans and Canadian issues stronger, with slight gains on the day as a rule. There was a good deal of fluctuation in mines, the balance being mostly on the downward side. This morning prices show very few changes in any department from the figures of last night's close. Scotch stocks rallied early on rumours of settlement of the shipbuilding trade dispute following some good traffics announced yesterday. Consols are down on the week. Other departments of the market show some distinct tone in the alterations in prices current viewed by class; but, on the whole, the movements pretty well counterbalance each other, a perusal of the following will show.

CONSOLS.—Lower: Two and Three-Quarters per Cent., ½. COLONIAL STOCKS, &c.—Lower: Cape of Good Hope Incribed, 1; New South Wales Incribed, ½ to 1; New Zealand Incribed, ½; Victoria Railway Incribed, 2.

CORPORATION STOCKS AND DEBENTURES.—Higher: Bolton Three and a-Half per Cent., 2; Burnley Three and a-Half per Cent., 2; Manchester Four per Cent., ½; ditto Three per Cent., ½; Stockport, Three per Cent., ½; Wigan Three per Cent., ½.

FOREIGNERS.—Lower: Argentine Six per Cent., 1; ditto Five per Cent., ½; Brazilian Four per Cent., ½; Egyptian Unified, ½; Italian Reutes, ½; Mexican Six per Cent., 1½; Portuguese Three per Cent., ½; Russian Four per Cent., ½.

BANKS.—Higher: Bank of Bolton, ½; Consolidated, 1-16; Imperial of Persia, ½; Lancashire and Yorkshire, ½; District, ½; National Provincial, ½; Union of Manchester, ½; W. D. and Manchester and Salford Bank, ½ to 4. Lower: Imperial Ottoman Bank, ½; London and Midland, ½.

INSURANCE.—Higher: Globe Accident, ½; Lancashire and Yorkshire Accident, 1-16 to ½; Liverpool, London, and Globe, ½; Maritime Insurance, 1-16; Positive Life, ½; Royal, ½. Lower: National Boiler, ½.

COAL, IRON, &c.—Higher: Bolckow Vaughan (£12 paid), 3-16; John Browns, ½; Parkgates, 3; Sheepbridge A, ½; Staveley A, 1-16; Lower: Tredegar A, 3-16 to 5-16.

TELEGRAPHS AND TELEPHONES.—Lower: Anglo-American Ordinary, 1; ditto Deferred, ½; ditto Preferred, ½.

SCOTCH MINING AND INDUSTRIAL COMPANIES
SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (October 17), writes:—During the past week the markets have been adversely affected by liquidation sales on account of nervous and weak holders. There has probably been some "bear" selling as well. The fortnightly settlement passed off satisfactorily, but the selling pressure has since been renewed. Trade reports, however, continue favourable.

In shares of coal, iron, and steel companies there is not much alteration to notice. Calderbank Steel and Fifeshire Main both wanted. Marbella are at 54s., Niddrie 44s. 6d., Steel Company of Scotland 82s., Stewart and Clydesdale 10.

In shares of copper concerns prices are steady. The principal dealings have been in Tinto, which declined from 19s. to 18s. 11d. Arizona are at 58s., Mason 57s. 6d., and Tharsis 54s.

In shares of gold and silver mines a large amount of business has been done in the leading shares, but the others have not attracted much attention. Chartered have been sold down to 6s. 7d.; Consolidated, 17s. 16d.; East Rand, 8s.; Randfontein, 68s. 6d.; and Sheba 39s. 6d., the latest prices being nearly in all cases the lowest. Broken Hill have advanced to 42s., ex dividend and bonus, owing to statements that they have struck a fresh body of milling ore. Achilles are at 3s.; Alpha (Western Australia), 5s. 6d.; Africander, 4s. 9d.; African Recovery, 40s., ex dividend; Anglo-African Gold Properties, 7s. 6d. premium; African Consolidated, 3s. 6d.; Big Golden Quarry, 2s. 6d.; Bechuanaland, 51s. 3d.; Boluwayo Gold Reefs, 4s. 6d.; Balkis Eersteling, 7s.; Big Blow, 25s.; Coetzee'stroom, 8s. 3d.; Charterland, 25s.; Caratal, 1s. 3d.; Colas Central, 1s. 6d.; Central Exploration (Western Australia), 48s. 9d.; Champion (Western Australia), 5s. 6d.; Consolidated Murchison, 17s. 6d.; East Orion, 18s. to 20s.; Elkhorn, 5s. 6d.; Ella, 9s.; Great Coolgardie, 3s. 3d.; George and May, 28s. 9d.; Guy Fawkes, 27s. 6d.; Gwelo, 5s. 3d.; Golden Feather, 7s. 6d.; Hauraki, 13s. 6d.; Hampton Plain, 5s.; Klerksdorp, 21s. 6d.; Kimberley Diamond, 21s. 3d. prem.; Lisbon, 9s. 6d.; Loupvaard's Vlei, 30s.; Lindsay, 16s. 6d.; Londonderry Consols, 5s. 3d.; La Plata, 3s. 6d.; Lake View, 25s.; Mosman, 4s. 6d.; Murchison New Chum, 25s.; Mines Acquisition, 5s. 9d.; New Goston, 15s.; New Louis d'Or, 3s.; Newfoundland Colonisation, 1s. 3d.; Onion Belt, 32s.; Pigg's Peak, 13s. 9d.; Rothery Block, 19s. 3d.; Rand Roodepoort, 11s.; Straits Development, 20s.; South Cross, 41s.; St. John de Roy, 21s. 3d.; Sam's Wealth of Nations, 5s.; Tati Concession, 57s.; Town Properties (W.A.), 15s. prem.; United Rhodesia, 25s.; United Gold Fields of Manica, 9s.; Village Main Reef, 7s.; West Australian Mining, 10s. 6d.; Victoria and Altamira Preference, 1s. 9d.; and West Australian Share Corporation, 25s. prem.

In shares of local and miscellaneous companies there is not much business doing. In oil companies' shares Broxburn are at 13, Pumperston Oil 9s., and Young's 51s. Nobel's are at 15s.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of October 17: The markets have remained quiet. In railway ordinary stocks, Caledonian Deferred and North British show an improvement, though the gain is small. Highland at 113s. has fallen 1s. The advance in debenture and other high-class stocks appears to have been arrested for the present, several of these showing a slight decline. In insurance shares, the only change is a fall of 1s. in North British and Mercantile, which are quoted at 40. In banks, British Linen at 39s shows a rise of 4s. Commercial and Clydesdale are at 70s. and 19s., respectively, an improvement of 2s. 6d. in each. British South Africa shares are 10s. lower at 6s. 11-16. Mortgage of South Australia are enquired for at 4s. 9d., a rise of 6d. Realisation and Debenture Corporation have improved from 8s. 6d. to 10s. Reversionary Association have improved from 6s. to 6s. Scottish Reversionary from 8s. to 8s. 9d. Stock Conversion from 16s. to 16s. 6d. Arizona Copper have declined from 59s. to 58s., Rio Tinto from 19s. to 19s., Tharsis from 108s. 6d. to 102s. 6d. In mines, Broken Hills, Consolidated Gold Fields, Mysores, and Nundydroogs are all higher. In oils, Broxburn have advanced 5s., Hermann 3d., Pumperston 5s. Distillers are 2s. 6d. higher at 18s. United Breweries 2s. 6d. higher at 9s. Swan Land and Cattle are 9d. lower at 19s. Assets 6d. lower at 46s. 6d. Coat's at 29s. 6d. are 10s. lower, after allowing for dividend.

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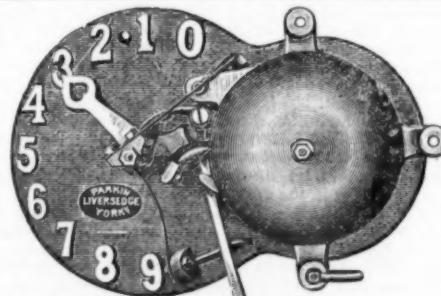
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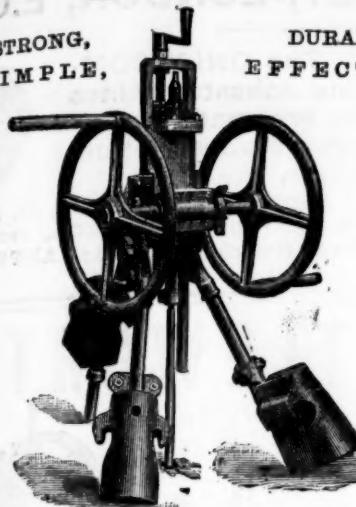
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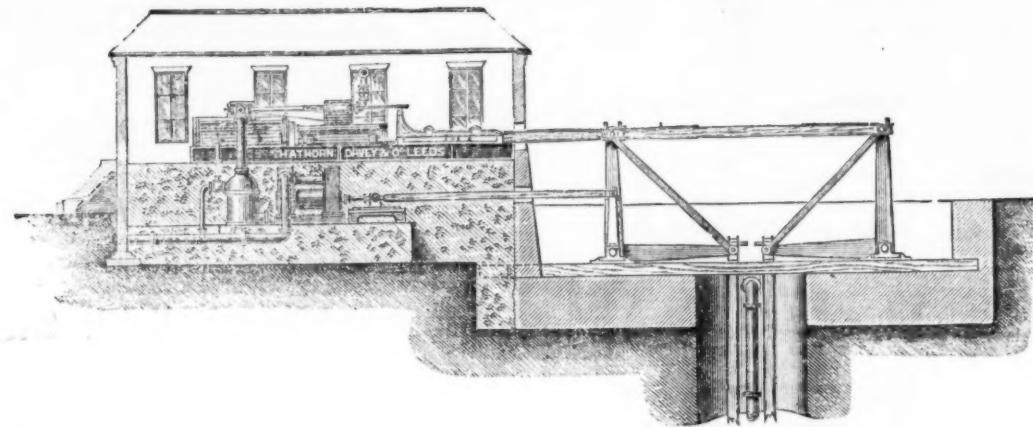
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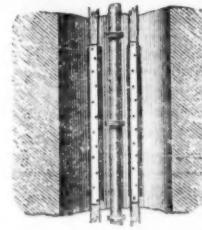
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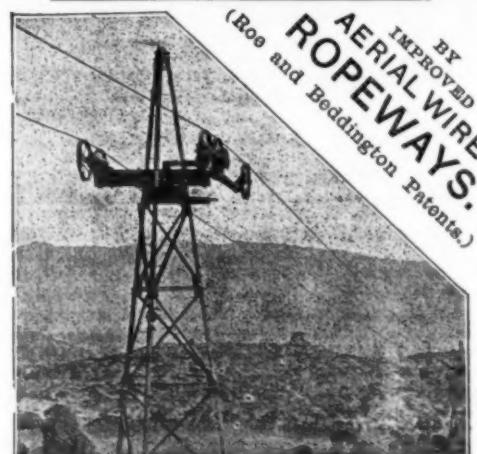
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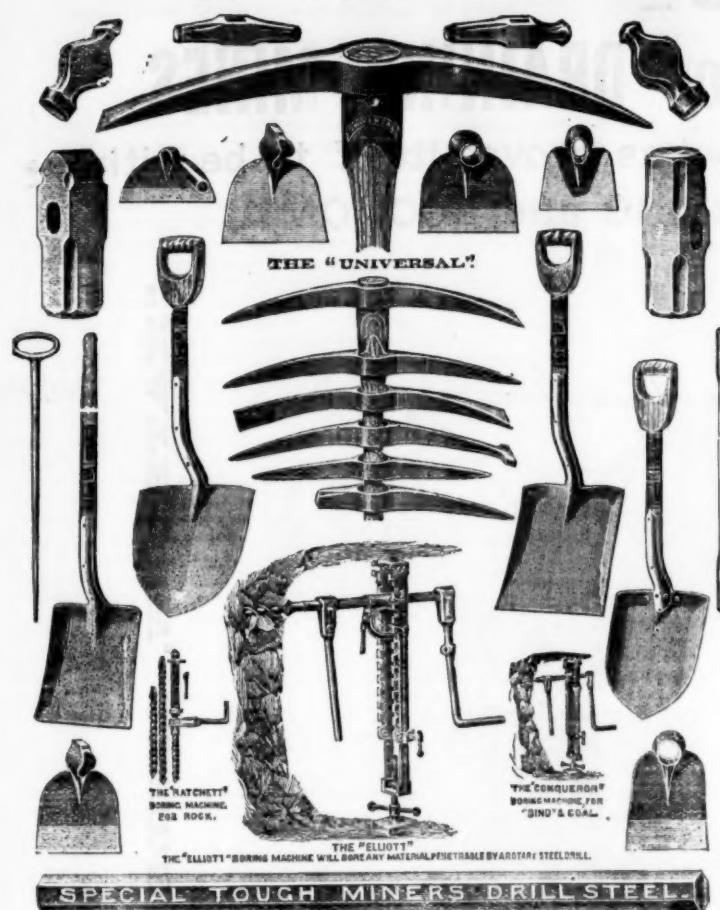
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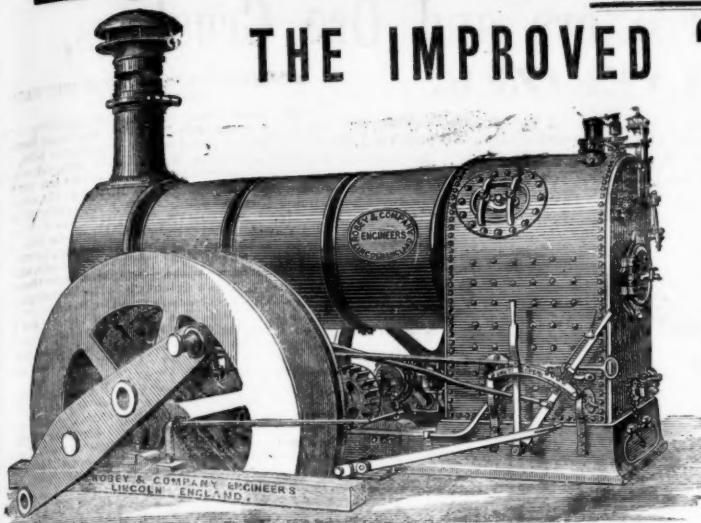
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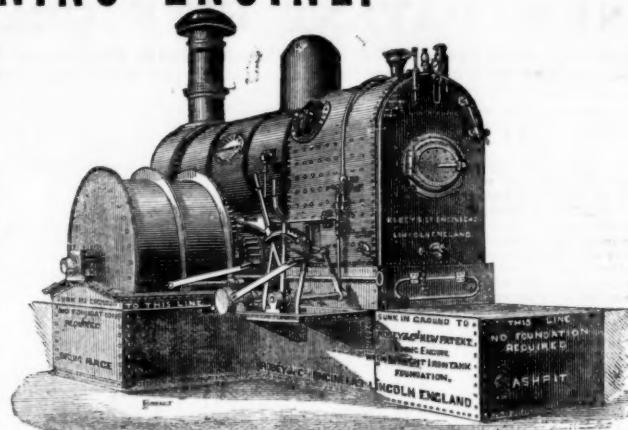
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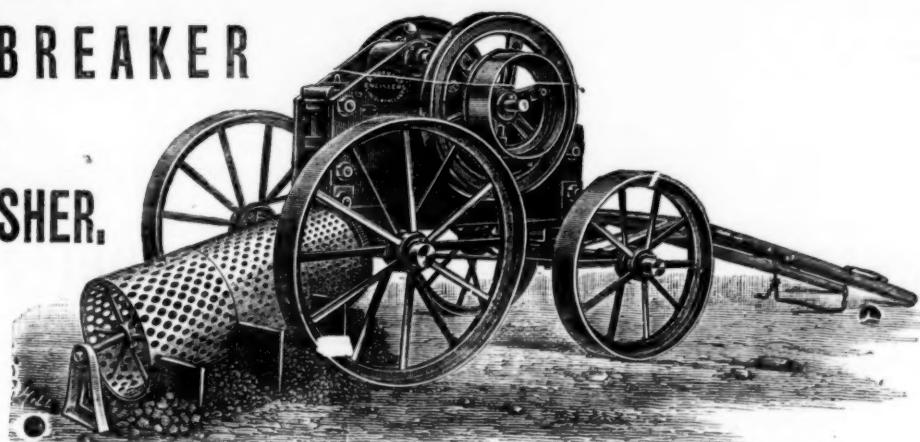
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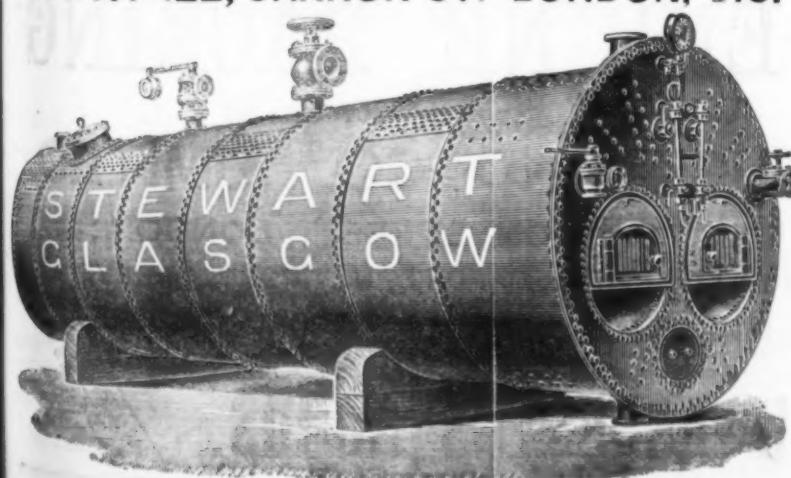
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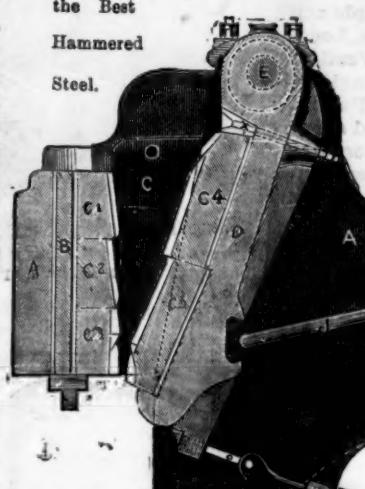
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40 per cent. less. The sample of the broken ma-

chine is so far superior to that broken by other

machines, and even to that broken by hand that we

can make no comparison. I is by far the best man-

chine we have ever seen."

"I now order three of your Stone Crushers, as

15 by 10, to be of your very best construction, and

to include two extra sets of Jaw and Checkers for each.

The last two 24 x 13 machines you sent me, which are

at work in this colony, are doing very well. You will

soon find that the railway contractors will adopt your

machines in preference to the colonial ones—two or

which I have. I know other contractors have had as

many as nine of them, which have not given very

good satisfaction. Once they know of your

thoroughly, I believe you will do a good trade with

the colonies. For reference of the high character of

your construction, you can refer to me as having

used them with the very best results, both in New

Zealand and this colony, and much prefer them to the

colonial article, both in point of construction and less

liability to go out of order. The material we are crush-

ing is very hard blue stone, for railway ballast pur-

poses. Push on with the order as quickly as possible.

I do not think it necessary to have any engineering

inspection. I have brought your machines prom-

inently under the notice of all large contractors in this

colony, likewise the Government. Many of the con-

tractors have spoken to me in reference to their

capabilities, and I could only tell them that they are

by far and away the best and most economical ever

used. The very fact of my having purchased seven

from you at various intervals and various class, and

two above 12 years ago, and having tried all the

other makers is sufficient guarantee of the capability

and the working of your machines. Yours every

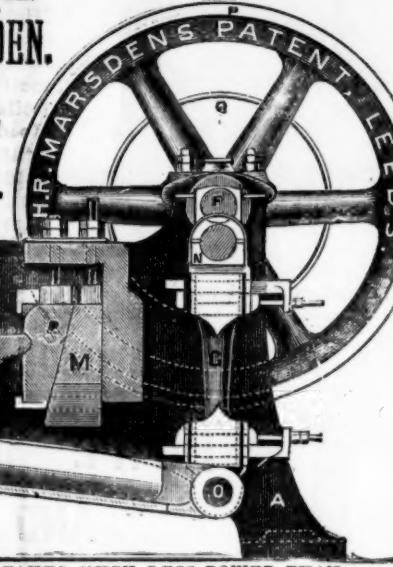
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